The Impact of Strategy Content and Development on Performance in Public Local Transit Agencies

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May 17, 2011

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**Introduction**

Public management research is largely concerned with how management practices and strategies influence performance (O’Toole and Meier 1999, Lynn Heinrich, and Hill 2000, Brewer and Selden 2000, Ingraham, Joyce, and Donahue 2003, Boyne 2003, and Moynihan and Pandey 2005). Boyne and Walker recently wrote, “In the public sector, strategy is more appropriately conceptualized as a means by which organizations can improve their performance and provide better services” (2010, S185). The purpose of this study is to determine whether management strategies do impact performance.

To this end, we conducted a survey of managers of local, public transit agencies in the U.S. Using the resulting data, we first operationalize the strategy content as conceived originally by Boyne and Walker (2004). We then run analyses to determine whether or not strategy content or development impact various performance indicators in these agencies.

**Strategy in Public Organizations**

Strategy provides direction and guidance for how an agency will move into the future in order to ensure its continued vitality and ability to add public value. It represents “the broad priorities adopted by an organization in recognition of its operating environment and in pursuit of its mission” (Niven, 2003, pp. 129-130).
Some recent public management research has been concerned with linking management and management strategies of public organizations with performance and other organizational outcomes (O’Toole and Meier 1999). However, before we can link management strategy and performance, we need a good approach for operationalizing strategy content in the public sector. There are many research approaches to studying management strategies for the private sector but less in the public sector. Often public sector research has utilized these strategies without enough consideration for what is appropriate or makes sense in public sector management (Nutt and Backoff 1995). There are exceptions to this, though. Two approaches have been used by Boyne and Walker (2004) to characterize organizations based on how organizations relate to their environment (Miles and Snow 1978) and the areas that public organizations focus their management (Porter 1980).

**Strategic Stance**

Strategic stance is a term used by researchers in public management to talk about how an organization behaves in its environment. There are various typologies modeling this behavior, the most prominent being the model developed by Miles and Snow (1978). They proposed that there were four stances that an organization could have in their environment: prospector, defender, analyzer and reactor. Boyne and Walker (2004) adopted and modified the typology for public organizations to include only the prospector, defender, and reactor stances, dropping the analyzer stance.

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1 Other have created typologies of stance, most notably Wechsler and Backoff (1986). Their typology characterizes public organizations as being developmental, transformational, protective, and political in their internal and external environments.
Organizations that exhibit a strong prospector stance are proactive in their environments, often adopting entrepreneurial-type behaviors to grow and expand the mission of their organizations. They see themselves as “leaders of the field.” The defender stance reflects the orientation of organizations that try to maintain the status quo and the every-day operations. They protect their mission and core values and value stability. Organizations with a strong reactor stance are often reacting to their environment rather than being proactive. Reactor organizations spend most of their time catching up with what leaders and others are doing, as well as being directed by auditors and mandates from elected officials (Boyne and Walker 2004).

*Management Actions*

Management actions, on the other hand, refer to how much emphasis an organization places on particular focus areas (Porter 1980, Osborne and Plasktrik 1999, and Boyne and Walker 2004).² Boyne and Walker’s (2004) classification of strategic actions revises Porter’s model (1980) to reflect where organizations focus attention.³ Their typology includes change markets, change services, seeking revenues, external organization, and internal organization. Markets refer to the people using the service or the geographic location of public organizations. Services are the goods or programs offered by public organizations. Boyne and Walker (2004) specifically define this section as the creation of new services. The strategy of generating revenues to carry out services is what is meant by seeking revenues. External organization refers to the interorganizational relationship pursued by public organizations that help them carry out service, such as partnerships, privatization, collaboration, and networks.

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² Like strategic stance others have classified strategic actions, or management areas, particularly in the private sector. Porter (1980) classified strategic actions of private organizations into focus on being a cost leader, focus of differentiation of cost or product, and focus on narrowing in on a segment of the population. Osborne and Plastrik (1999) divided the strategic actions of public organizations into five distinct focus areas: core services and mission, utilizing incentives, customer relations and accountability, shifting control away from the top and center of organizations, and developing an entrepreneurial culture.

³ Public management and strategic management scholars will most likely recognize that these strategic actions are very similar to the balanced scorecard model introduced by Kaplan and Norton (1996).
Internal organization refers to internal operations such as human resource strategies and performance measurement systems.

Boyne and Walker (2004) base their strategic actions on what type of change would occur in the first three focus areas: change markets, change service, and seeking revenues. We have slightly revised these for our purposes because not all types of organizations will be seeking change when they focus on these areas. For example, Boyne and Walker (2004) have labeled their focus area “change markets” but if an organization is strongly defender then it will not be seeking change in their market. Instead they will protect the market that exists. Therefore, our strategic actions are market, service, financial viability, internal organization, and external relationships.

Strategic Content

According to Boyne and Walker (2004), the two pre-eminent approaches were often conceptualized as competing against each other. Instead, they introduce a matrix that incorporates both approaches. Furthermore, they argue that organizations do not display a complete preference for any particular stance to the exclusion of the other stances. Instead they can exhibit a preference toward one stance over another given a certain time period or depending on the focus given to a particular strategic action. For example, an organization could be strongly prospector when it came to attracting new customers or clients but be strongly defender when it came to how they approach financial viability. Figure 1 demonstrates their typology.
So far, to our knowledge, no one has operationalized the matrix to represent organizational strategy. This is unfortunate because the matrix is a graphical representation of how public organizations strategize and could be very useful in continuing research on whether or not strategies impact performance. This paper is the first to date, to our knowledge, that operationalizes and uses the profile to determine whether strategy content impact performance.

**Strategy Development**

Most organizations engage in some form of planning, but planning can be either formal or done incrementally (Boyne and Gould-Williams 2003). The first approach, formal strategic planning, is a rational approach to strategy formulation that employs a well-thought out, systematic process with specific steps of analysis and evaluation (Eadie, 1983; Nutt and Backoff, 1992; Bryson, 2004). Organizations that plan using the logical incrementalism approach, on the other hand, strategize and negotiate decisions along the way as changes occur in their environment (Quinn, 1978). In some cases agencies may use both approaches, developing formal strategic plans within an ongoing context of logical incremental decision making (Poister,
Some organizations neither plan strategically nor incrementally and, thus, have no approach for purposeful planning.4

Strategic Planning

Bryson (2004) defines strategic planning as “a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization (or other entity) is, what it does, and why it does it” (p. 6). Much broader than program planning, project planning, budget planning, or operations planning, strategic planning is a “big picture” approach that addresses the most fundamental issues facing an organization’s long-term vitality and effectiveness (Kemp, Funk, and Eadie, 1993; Poister and Streib, 1999). Its use has grown substantially over the past three decades at all levels of government as agencies have recognized the need to respond to emerging issues, adjust to rapidly changing conditions, and move into the future in a purposeful way in order to assure their continued viability and fit with their ever-changing environments (Berry and Wechsler 1995 and Poister and Streib 2005).

Many proponents of strategic planning have prescribed steps for completing a strategic planning process (Eadie 1983, Denhardt 1985, Kaufman and Jacobs 1987, Pindur 1992, Gibson 1993, Nutt and Backoff 1992, and Bryson 2004). There is no one best way to develop a strategic plan, and the proponents of strategic planning emphasize the need for flexibility in tailoring the process to fit circumstances and an agency’s needs at a particular time. However, common steps often incorporated in strategic planning in the public sector include clarifying mission and mandates, identifying core values, developing a vision of the future, assessing internal strengths and weaknesses, conducting an environmental scan and a situational analysis of how the agency relates to its environment, identifying strategic issues facing the organization, establishing

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4 Though, not discussed here, there are reasons that organization may avoid any type of planning. The most likely being that an organization is experiencing some sort of transition and needs time to essentially “get their house in order” before planning (Inkpen and Choudhury 1995 and Bryson 2004).
strategic goals and objectives, developing and assessing the feasibility of strategies for achieving those goals and objectives, creating and implementing action plans to move the strategies forward, and monitoring and evaluating progress and updating strategies as might be needed.

Strategic planning advocates often point out a variety of benefits of strategic planning including stronger partnerships and stakeholder relations (Bryson, 2004), a more popular public image and political support (Backoff, Wechsler, and Crew, 1993), increased management capacity and analytical capability (Nutt and Backoff, 1992), an improved ability to respond effectively to rapidly changing circumstances (Bryson and Roering, 1988), and more effective leadership and a more positive organization culture (Bryson, 2004). However, Bryson (2004) lays out the principal benefits as the promotion of strategic thinking, acting and learning, improved decision making, and enhanced organizational effectiveness in terms of service delivery and overall performance. Others who have pointed to a direct connection between strategic planning and improved performance include Halachmi (1986), Bryson and Roering (1988), Koteen (1989), Pindur (1992), Berry and Wechsler (1995), Poister and Streib (1999, 2005), Niven (2003), Boyne and Gould-Williams (2003), and Poister, Pitts, and Edwards (2010).

**Logical Incrementalism**

Proponents of logical incrementalism in the private sector literature point out organizations rarely make decisions in the formal, rational manner outlined by strategic planning (Quinn 1978 and 1982). Instead, Mintzberg (1994) argues that planning is not strategic and that strategy formulation occurs due to strategic thinking. According to Mintzberg, “…strategies often cannot be developed on schedule and immaculately conceived. They must be free to appear at any time and at any place in the organization, typically through messy processes of
informal learning…” (108). Thus, Mintzberg (1994) has argued forcefully for a diminished role of strategic planning in private organizations.

Quinn (1978 and 1982) argues that the most successful private companies have been able to strategize incrementally despite messy, politically charged environments. This does not mean that these organizations just reacted when something happened. Logical incrementalism is still an intentional process but attempts to account for ever-changing environments and limits on information-gathering. Quinn writes, “[Logical incrementalism] is a purposeful, effective, proactive management technique for improving and integrating both the analytical and behavioral aspects of strategy formulation” (8).

With regard to the public sector, Lindblom (1979) articulated this perspective by arguing that organizations do not have complete information for rational decision making. Public organizations must satisfice by making small changes as information becomes available. Because of these limitations with formal planning, Quinn (1978) determines that formal planning can only work when linked with incremental decision making.

While Lindblom’s (1979) “muddling through” refers to policy formulation, Behn (1988) characterizes incremental decision making in public management as “groping along.” Like Quinn (1978), Behn (1988) argues that incremental decision making is not a proposed approach to strategizing but rather a description of management reality in the public sector. Managers should experiment with new techniques with the overall goals of the organization in mind. Some will work, some will not. According to Behn (1988) failure is not a negative outcome because learning has occurred and improvements can be designed from what has been learned. Logical incrementalism allows for mistakes and risk-taking from management because the process is not
perfect (Quinn 1978). The process requires managers to “constantly reassess the future” (Quinn 1978, 18) and is dynamic with “neither a real beginning nor end” (Quinn 1978, 18).

According to Quinn (1978), the benefits of logical incrementalism are that this type of decision making allows organizations to integrate formal, political, and organizational concepts together, improves cohesion, and identifies new directions for organizations. Logical incrementalism also allows managers to make the best decision possible with the current information, knowing that future information could create changes that require an updated decision.

**Performance in the Public Sector**

The emphasis on performance in government has grown substantially over the past few decades in response to the convergence of two sustained trends: increased demands for accountability from various stakeholders and the commitment of practicing public managers and related associations to managing their agencies more effectively or, in short, “managing for results.” As a result the focus on performance is ubiquitous, and governmental agencies in the U.S. as well as many other countries around the world are operating in an era of performance. Though not all public management scholars are comfortable with the elevated importance of performance (Radin, 2006), many place value on performance monitoring as a means of understanding how well an organization or program is performing and identifying opportunities for improving performance (Ammons 1995, Behn 2002, Bouckaert and Peter 2002, Brewer 2006, and Van Dooren et al. 2010).
Performance is a multifaceted concept, and proponents of performance measurement advocate utilizing a variety of different types of measures to represent various dimensions of performance and provide a balanced and comprehensive view of an agency’s or program’s performance (Hatry et al. 1977, Ammons 2001, Poister 2003, and Hatry 2006). While problems of semantics abound in this field, output measures, efficiency and productivity measures, service quality and customer satisfaction measures, outcome measures, and cost-effectiveness measures are usually considered to represent the most important dimensions of the performance of a public agency or its programs. If the assumption different strategies will have an impact on performance is correct, the operationalizing performance is of paramount importance. It is highly likely that when using objective performance data, the impact of strategy on performance could vary depending on the dimension of performance being used as the dependent variable.

Impact of Management Strategies on Performance

Strategy Content

Strategy content is conceptually linked to performance in both the private and public sectors and a focus of researchers across disciplines (Boyne and Walker 2010).5 Performance in the private sector is typically viewed as gaining profit and getting more of the market share in their given industry. Therefore, studies abound that describe how certain strategies can have a larger impact on performance. However, performance in the public sector can be more difficult to conceptualize. As a result, theory and concrete findings that link strategy content with performance in the public sector is more difficult to come by.

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5 This article refers to strategy and strategic management but is more specifically concerned with strategic content.
However, a recent article outlines more broadly why strategy content should impact performance (Boyne and Walker 2010). “Strategy is believed to set a direction for collective effort, help focus that effort toward desired goals, and promote consistency in managerial action over time and across parts of the organization” (S186). The basic assumption is that because organizations that have a clear strategy are better managed than those without a clear strategy, performance will be better in organizations with a clear strategy.

This same article outlines the assumptions that researchers make regarding the impact of strategy on performance (Boyne and Walker 2010). The first assumption is that public sector performance is based on more than just than internal structures and processes or external factors. Performance is due in some part to how the organization is guided strategically. The second assumption is that there are causal mechanisms in place that provides the reasons that strategy impacts performance. These could be reputational or technical reasons. The final assumption is that differing strategies can help to explain why performance varies across public organizations that appear to be otherwise very similar.

Boyne and Walker make no hypotheses regarding the impact of strategy content on performance in their 2004 article except to question whether or not content is related to performance and under what circumstances different strategies are more likely to be successful. However, subsequent articles from this group of researchers have focused on the impact of content on performance, focusing particularly on the impact of strategic stance on performance (Andrews et al. 2005, Andrews et al. 2006, Meier et al. 2007, Andrews et al. 2008, Andrews et al. 2009, Walker et al. 2010, and Meier et al. 2010).

To date, one study (Andrews et al. 2006) has focused on all aspects of the strategy content as defined in the original article (Boyne and Walker 2004). Each aspect is measured as
single item variables and analyzed individually. For the stance variables, the authors find that the prospective stance is positively associated with performance and that the reactor stance is negatively associated with performance. Focusing on providing services in new markets is the only focus area to have a significant impact on performance.

Other articles have focused on the stance dimension of strategy content, excluding focus areas as part of the analyses (Andrews et al. 2005, Meier et al. 2007, Andrews et al. 2008, Andrews et al. 2009, Walker et al. 2010, and Meier et al. 2010). Andrews et al. 2005, 2008, 2009, and Walker 2010 are based on Welsh and British local authorities. These studies most often operationalize stance as latent variables constructed from multiple survey items and look at a variety of management issues in public organization in addition to stance. Meier et al. 2007 and 2010 utilize data from school districts in the state of Texas. In the multiple analyses, the prospective stance is the only one to consistently have a significant impact on performance and that impact is most often positive. The impact of the defender and reactor stances on performances is most often insignificant. The analyses that find a significant impact of the defender stance on performance are evenly split between being positive and negative. Those that find that the reactor stance has a significant impact are skewed towards a negative impact.

Based on these findings, as well as findings in the private sector, we first hypothesize that performance will increase as the extent to which an agency is prospective increases. Likewise, we hypothesize that greater extent to which an agency exhibits defensive behavior, performance is also likely to improve. We hypothesize that as the extent to which an agency is reactive, performance is likely to worsen.
Strategy Development

Both advocates of strategic planning and logical incrementalism do so in part because of the potential impact of that form of strategy development on performance. Advocates of strategic planning often tout its potential positive impact on organizational outcomes, particularly performance (Nutt and Backoff 1992 and Bryson 2004). Boyne (2003) outlined several reasons that rational planning, or strategic planning, should lead to improved performance as follows. Briefly, formal strategic planning:

- Forces officials to clarify goals and objectives
- Formalizes communication
- Reduces reactionary responses to external shocks
- Helps complex organizations plan for the long-term
- Forces organizations to gather analyses for better decision-making
- Unifies the activities of a complex organizations

The most direct linkage between strategic planning and performance is provided by goal-setting theory, which holds that because behavior reflects conscious goals and intentions, employee efforts and thus performance in organizations will be influenced by the goals assigned to them (Fried and Slowick 2004). Furthermore, Latham (2004) explains that goal-setting drives performance because it diverts energy and attention away from goal-irrelevant activities toward goal-relevant efforts, energizes people to put forth greater effort in their work, and motivates managers and employees to use the knowledge and skills they have to attain goals or to discover such knowledge or develop such skills as might be needed. Since the goals identified by strategic planning efforts often focus on improving performance, therefore, strategic planning should be expected to lead to improved performance (also see Niven 2003 and Pindur 1992).

More systemically, Bryson (2004) suggests that strategic planning serves to strengthen management and decision making processes which in turn lead to improved outputs, efficiency, service quality, and outcomes, in short that strategic planning leads to improved performance.
Furthermore, Koteen (1989) argues that public agencies’ strategic initiatives are often concerned with improving program performance, particularly in terms of the quality of products and services and the efficiency with which they are produced.

However, others say that strategic planning activities can have a negative impact on performance. Quinn (1978 and 1982) argues that strategic planning in the private sector is but one building block in overall strategy. Strategic planning on its own can place a burden on organizations that worsens performance because organizations are putting so much effort into coming up with a plan (Mintzberg 1994). Essentially, planning becomes more important than doing (Behn 1988). The political environment of public organizations can cause a further strain because elected stakeholders are less concerned with the long-term strategy of the organization. They are more concerned with the short-term decisions that matter for the moment and possibly not the next (Boyne 2003). Proponents of logical incrementalism argue that this mode of strategy formation will positively impact performance because managers are more likely to take risks, learn from mistakes, and make better decisions based on lessons learned from successes and mistakes (Behn 1998).

Prior research on the impact of strategy development on performance in the public sector has generated mixed results. Like strategy content, most of the research in this area has been conducted based on Welsh and English local authorities (Boyne and Gould-Williams 2003, Poister and Streib 2005, Andrews et al. 2009, and Walker et al. 2010). Based on a survey of local governments in the U.S., Poister and Streib (2005) found that 89% of their respondents felt like strategic planning had led to better performance. Andrews et al. (2009) and Walker et al. (2010) look at the impacts of both strategic planning and logical incremental on performance more explicitly. They find no evidence that strategic planning has an impact on performance.
when past performance is included in the analysis. The findings concerning logical incrementalism are mixed. Andrews et al. (2009) finds that logical incrementalism negatively impacts performance in Welsh local authorities but Walker et al. (2010) finds no such significant impact for English local authorities.

We hypothesize that the more an organization engages in strategic planning, the stronger its performance will be. This hypothesis is based on the assertions and theory of strategic planning researchers since, to date, findings have been inconclusive. We further hypothesize that performance will worsen the more an organization engages in logical incrementalism.

We argue that that few organizations focus solely on either strategic planning or logical incrementalism (Poister 2010). Furthermore, it should be understood that much of the literature on logical incrementalism does not totally negate the value of strategic planning. Rather, its proponents tend to see enhanced benefits of logical incrementalism when organizations have a good idea of where they are headed in the future (Quinn 1978, 1982 and Behn 1988). Quinn writes that for the private sector, “A step-by-step approach is clearly necessary to guide and assess the strategic fit of each internal or external diversification candidate. Incremental processes are also required to manage the crucial psychological and power shifts that ultimately determine the programs overall direction and consequences” (10). Other observers have noted that the value of formal strategic planning is enhanced when it is conducted within a larger context of purposeful incrementalism (Barzelay and Campbell 2003 and Poister, 2010). This suggests that public organizations, which are likewise shaped largely by political shifts, would benefit from some sort of strategic planning in conjunction with the logical incrementalist style of decision making along the way. When organizations clarify their goals but have some flexibility in how they reach those goals, we expect that performance will also improve. To this
end, we include an interaction term taking into account that organizations could be doing both simultaneously and hypothesize that this would beneficial in terms of organizational performance.

**Strategy in Public Transit Agencies**

To date, studies about strategy have either focused on Texas school districts or local authorities in Wales and England. To extend the research on strategy, we have chosen to examine these hypotheses in the context of local transit agencies in the United States. These public agencies must be concerned with their short and long-term viability within the local communities they serve, and strategy with regard to preserving and improving their “fit” with their operating environments should be important to them. Thus, they are often concerned with long-term goals and how they will reach those goals, particularly with respect to ridership, service delivery, financial stability, management of internal operations, and relationships with important external stakeholders.

**Strategic Stance in Transit Agencies**

Transit agencies are more similar to private corporations than are most other programs delivered by the public sector, in part because they often started as privately operated companies and then were converted to public agencies when business became unprofitable. Unlike most other kinds of public agencies, transit systems operate in a competitive market place and must compete for patrons with other modes of transportation, particularly discretionary riders who can choose whether to drive their own automobiles or use public transportation. Transit agencies can strategize regarding the types and volume of services they provide, the quality of those services,
and the hours and routes they operate in order to position themselves in the market place and to preserve ridership and/or attract additional riders to their systems.

Financially, local transit agencies are often under pressure to cover more of their expenses with earned revenue, and decision-making regarding fare structures is critical because they need to make enough money to keep providing services while still being attractive to riders. In addition, transit agencies are constantly working to assure their continued financial viability through revenue diversification as they obtain revenues from a variety of sources beyond their fare boxes including other earned income, taxes, and subsidies from all levels of government.

Transit agencies are very labor intensive enterprises and thus internal management, particularly human resource management as well as operations management, is critically important to their success.

Furthermore, maintaining productive external relationships is crucial to the management of transit agencies because they interact with such a variety of stakeholders. The Federal Transit Administration, state transportation departments, local governments, and municipal planning organizations provide important funding and other kinds of support, while other public programs and nonprofit agencies providing human service often serve as brokers between their clients’ needs and services that can be provided by local transit agencies. In addition, developing and maintaining productive partnerships with labor unions as well as a variety of suppliers and contractors is also critical to transit agencies’ productivity and overall performance.

**Strategy Development in Transit Agencies**

In addition to basic service planning which is done by almost all local transit systems on a routine basis, many transit agencies also engage in broader strategic planning from time to time. Obeng & Ugboro (2006) examined strategic planning efforts in this context and noted that
strategic planning in public transit agencies must often be concerned with meeting various federal legislative requirements while helping them to reach their own locally determined long-term goals. This research, which is also reported by Ugboro, Obeng, and Spann (2010), was based on a survey of top-level management in fifty-four transit agencies in the U.S. and concluded that strategic planning can be an important management tool for local public transit agencies. While this study did not focus on the effect of strategic planning on actual transit system performance, it did examine the effects of strategic planning design, process, and organizational context on the perceived effectiveness of strategic planning in these agencies. The findings suggested that effective strategic planning processes in these public transit agencies exhibited the following characteristics:

- Top management is involved with and committed to strategic planning
- Responsibility for strategic planning is located close to top management
- The strategic planning processes fit the leadership style of top management
- Strategic planning staff have good relationships with top management and unit or division managers
- Unit plans are often consolidated into system-wide plans
- Employees understand the procedures used for strategic planning
- The planning process is not too rigid or mechanical
- Analyses are conducted to identify future opportunities for growth, and
- Strategies are responsive to environmental challenges and customer demands

In short, Obeng and Ugboro (2006) concluded that “strategic planning is an important strategic management tool that allows public transit agencies to meet customer demands primarily in terms of mobility and accessibility, and federal legislative requirements” (436). Thus, strategic planning might well be expected to increase organization performance in this policy domain.

**Performance in Transit Agencies**

The transit industry is rich with performance data. As an industry, transit agencies monitor a wide variety of measures in order to assess their performance and improve it over time as well as to afford accountability to a variety of stakeholders. While many of these measures
are more operationally oriented and focus on such issues as fleet utilization, schedule reliability, information availability, and passenger comfort, for example, others are more outcome oriented or focus on economic efficiency. More than twenty years ago, Fielding (1987) laid out the three principal dimensions of performance that are of great importance to the transit industry and lend themselves readily to comparing performance among transit systems:

- **Cost Efficiency:** Service output in ratio to input, such as operating cost per vehicle mile, expense per vehicle hour, or vehicle hours per full-time-equivalent employee hour.

- **Service Effectiveness:** Utilization in relation to service outputs, such as passenger trips per vehicle mile operated, passenger trips per vehicle hour, or passenger miles per vehicle mile operated. These are also thought of as system productivity measures (Ryus et al, 2010).

- **Cost Effectiveness:** Cost of resources used in relation to utilization such as cost per passenger trip, revenue in relation to costs such as the percent of costs recovered through earned revenue, or revenue in relation to output such as revenue per vehicle mile operated.

In addition, while service utilization in the form of ridership on transit systems is an input to several system productivity and cost-effectiveness measures such as passenger trips per vehicle mile and the cost per passenger trip, ridership measures are usually considered to constitute important measures of transit system effectiveness in its own right (Karlaftis and McCarthy 1997, Kain and Liu 1999, Kittleson and Associates et al. 2003, and Ryus et al. 2010). Thus, the dependent variables used in the research reported in this article focus on operating efficiency, ridership, system productivity, and cost-effectiveness.

A substantial body of research on the determinants of various aspects of transit system performance has accumulated over the past four decades (see Miller 1970, Fielding, Gauthier, and Lave 1978, Giulainao 1980, Anderson 1983, Perry and Babitsky 1986, Benjamin and Obeng 1990, Karlaftis and McCarthy 1997, Zullo 2007, Leland and Smiornova 2008 for representative studies in this area). Collectively, these studies have identified a wide range of transit system
characteristics and service operational variables along with service area characteristics and institutional or structural variables that influence the performance of local public transit systems. An analysis of the effect of strategy process on transit system performance would have to take at least the latter categories of determinants into account one way or another in order to provide for fair comparisons.

**Methodology**

Our analysis of the effect of strategic content and strategy formulation on performance in the public transit industry utilizes indicators of strategy process obtained from an original survey of transit managers in the U.S. and performance measures taken from data compiled by the Federal Transit Administration (FTA).

**Sample Selection and Survey Methodology**

To ensure comparability among transit agencies, we used the National Transit Database (NTD), which is maintained by the FTA, to identify a subset of transit agencies in the United States that were similar in size and operations to ensure a fair amount of comparability between the agencies surveyed. First, we eliminated the smallest agencies, those with fewer than nine vehicles in operation, which are exempted from reporting to the NTD. Second, we focused on bus transit systems and eliminated agencies that operate rail service because these agencies have institutional structures, operating characteristics and service demands that are very different from agencies that only operate bus systems in some case along with demand responsive services.
Third, agencies with overlapping service areas were also eliminated in order to ensure that the performance of any given agency in our sample is not affected by the presence of another transit agency operating in the same service area or market.

These latter two criteria also served to eliminate from our sample transit agencies in the largest metropolitan areas in the U.S. such as New York City, Washington D.C., Chicago, San Francisco, and Atlanta among others which operate much larger systems than do most transit agencies in the country. After applying these parameters, our sample consisted of 236 transit agencies, which can generally be characterized as agencies which operate small and medium size bus transit systems in urbanized areas in which they are the lone providers of public transit services. This latter criterion is particularly important for comparing performance across local public transit agencies (Ryus et al. 2010).

Data on strategy content and development are drawn from an original survey that was disseminated to the chief executive officers of the 236 agencies described above and conducted from October to December 2009. Contact information for transit agency executive directors was gathered from agency websites and/or phone calls made to the transit agencies to obtain contact information. The survey was administered online with emails containing links to the survey sent to CEOs/Managing directors of transit agencies. Almost half, 103 or forty-three percent of the 236 selected transit agencies responded. Those agencies that did respond provided a good cross-section of transit systems around the U.S. Only eleven of the 50 states were not represented, and four of these states had no transit agencies in the population of interest. The survey results were then merged with performance data drawn from the NTD described below.
Measures

Strategy Content

We used the information gathered in the survey questions to construct strategy profiles as conceived by Boyne and Walker (2004). Using the raw answers from the importance and stance questions as weights we were able to calculate the percentage of overall management strategy for each cell in the profile. The manner in which each cell is calculated means that the fifteen cells add up to one-hundred percent. Therefore, the number in a particular cell represents the percentage of an agency’s overall strategy is employ one of the three stances to manage one the focus areas. For example, if the percentage in the cell for prospector stance regarding service is 9%, we could see that the agency was highly prospector in their service area and found the area important to their overall strategy. More specifically we would know that 9% of the agency’s overall strategy was focused on prospective orientation regarding service delivery. Another agency might be 4.00 or 5.00% in the same cell which would indicate that the agency is much less likely to concentrate on a prospector strategy when approaching service delivery. This could be because they do not find service delivery as important as other focus areas or because they have adopted other strategies besides the prospector strategy. The reason for the low score, though, most likely is a combination of both low importance and the adoption of other strategies.

The items we used to construct our profiles are in Figure 2.

Figure 2: Profile Construction Items

<table>
<thead>
<tr>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using any number on a scale from 0-10, where 0 means not at all important, 5 means moderately importantly, and 10 means very important, please indicate how important service was to your agency’s overall strategy.</td>
</tr>
<tr>
<td>Expanding services we provide and/or initiating new services</td>
</tr>
</tbody>
</table>
Maintaining existing service levels and improving the quality of the public transit services we provide
Changing service levels as required by forces beyond our control

**Ridership**
Again, using any number from 0 to 10, please indicate how important ridership was to your agency’s overall strategy.
Working proactively to attract new riders to our system
Trying to retain our existing ridership
Responding to changes in our ridership as driven by outside forces

**Financial Viability**
Again, using any number between 0 and 10, please indicate how important financial viability was to your agency’s overall strategy.
Diversifying revenue sources and maximizing our agency’s overall financial performance
Protecting our sources of revenue to maintain overall financial viability
Adjusting expenditures when revenues change

**Internal Management**
Using any number between 0 and 10, please indicate the importance of internal management to your overall strategy.
Managing aggressively with approaches such as balanced score cards, results based budgeting, and performance management tools to maximize effectiveness
Using traditional management practices to manage our transit system as efficiently as possible
Making changes only when we were required to by higher level policy makers, regulators, or funding agencies

**External Management**
Using any number between 0 and 10, please indicate how important managing external relationships has been to overall strategy in your agency.
Proactively strengthening relationships with a wide range of stakeholders in order to build a network of support for our transit agency
Maintaining contact with a range of stakeholders in order to protect the interests of our transit system
Seeking support from key stakeholders at the local, state, and federal levels only when the need arose
After constructing the strategic profiles, our profiles corroborate what Boyne and Walker (2004) thought would happen as far as how public organizations strategize. Agencies never solely demonstrated a preference for one stance in all five focus areas, meaning there are no ideal types of a prospector, defender, or reactor agency. So agencies are not exclusively strategizing based on one stance, they may be prospectors when it comes to ridership but defenders when it comes to how they manage their financial viability. Furthermore, while an agency may demonstrate a preference toward one stance, their overall strategy within a focus area is typically a blend of the three stances. So, agencies appear to be using a mixture of stance even when approaching a single focus area.

The aggregate profile (Table 1) that shows the mean for all respondents in each of the fifteen cells, demonstrates that on average agencies are not really showing a preference for one strategic stance or focus area. However, interestingly, there is a preference shown for the defender stance in all focus areas but management of external relationships, where the score is tied with the prospector stance. Another interesting, though not really surprising, is how low the reactor stance is in all focus areas but financial viability. When it came to how agencies approached financial viability, overall they are more likely to adopt the reactor stance than the prospector stance.

<table>
<thead>
<tr>
<th></th>
<th>Prospector</th>
<th>Defender</th>
<th>Reactor</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>7.0%</td>
<td>8.2%</td>
<td>5.8%</td>
<td>21.0%</td>
</tr>
<tr>
<td>Ridership</td>
<td>6.8%</td>
<td>7.3%</td>
<td>5.8%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Financial Viability</td>
<td>6.8%</td>
<td>7.7%</td>
<td>7.1%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Internal Management</td>
<td>6.2%</td>
<td>7.7%</td>
<td>4.6%</td>
<td>18.5%</td>
</tr>
<tr>
<td>External Management</td>
<td>6.7%</td>
<td>6.7%</td>
<td>5.3%</td>
<td>18.7%</td>
</tr>
<tr>
<td><strong>Column Total</strong></td>
<td><strong>33.5%</strong></td>
<td><strong>37.6%</strong></td>
<td><strong>28.6%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
The aggregate profile demonstrates the average of all agencies in our sample. However, it should be noted that there is a good deal of variation between individual agency profiles. We were able to identify agencies that were strongly prospective in all focus areas and others that were strongly defensive. Some agencies were even across all stances in some focus areas but in other areas they leaned toward one stance over the other three. The individual profiles are a particularly useful tool to describe how individual agencies strategize.

However, we are interested in utilizing the profile for analyzing the impact of strategic stance on performance. To this, we add across the five focus areas to come up with an overall percentage of their strategy focused on a particular stance. Because adding this overall percentage for all three stances adds up to 100%, we cannot include all three stances in the analysis. We chose to exclude the reactor stance.

*Strategy Development*

Each of our planning variables was constructed using responses to four items from the survey of public transit agencies. Respondents were asked to rank their agreement with survey items on five-point Likert scales. They were asked to base their answer on their planning activities from 2004 to 2008, so we could understand how they planned before the current recession took hold in late 2008. Such a dramatic shock in the environment, no doubt, has impacted how agencies have strategized and planned as they have responded to this new reality. Of less importance, we also do this to establish causality since our performance data are from 2008. We used principle components analysis (PCA) to create estimated factors for each approach to strategy formulation. Figure 3 indicates the survey items used to construct each index, as well as their Cronbach’s Alpha statistics.
**Figure 3: Items used for Factor Analysis: Strategy Development**

<table>
<thead>
<tr>
<th>Planning Variable</th>
<th>Statement</th>
<th>Chronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Planning</td>
<td>• Your agency has developed strategy through a systematic planning process</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• You have completed a formal strategic plan or plan update at least every four years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• You have conducted situational analyses of your agency’s strengths and weaknesses</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>• You have established strategic goals and have used them to drive decisions and actions throughout the agency</td>
<td></td>
</tr>
<tr>
<td>Logical Incrementalism</td>
<td>• Strategy has been made on an ongoing basis in your agency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Periodically, you have reassessed your own performance in light of changing circumstances and adjusted strategy accordingly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• You have tried to maintain flexibility for future options and made change in strategy when suggested by newly emerging information</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>• You have used forecasts of future conditions as the basis of your strategy but also have developed contingency plans to deal with uncertainties in those forecasts</td>
<td></td>
</tr>
<tr>
<td>Absence of Planning</td>
<td>• You have been much more concerned with managing operations on a day-to-day basis rather than longer term strategy</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>• You have moved into the future largely as a result of forces beyond your control</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Your strategy has reflected your past and current orientation more than anything else</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Formal plans have not really impacted ongoing management and decision making in your agency</td>
<td></td>
</tr>
</tbody>
</table>

**Performance**

We utilized data from the NTD to create performance measures that constitute the dependent variables in this study. These data pertain to performance in Fiscal 2008, as this is the last year that has been made publicly available at this point. As the NTD contains comparative data on various aspects of the performance of transit systems in the U.S., we were able to
construct eight performance measures that represent the four performance dimensions of interest as follows:

- **Efficiency**
  - Operating expenses per vehicle mile (1)
  - Operating expenses per vehicle hour (2)

- **Effectiveness**
  - Unlinked passenger trips\(^6\) (1)
  - Unlinked passenger trips per capita (2)

- **System Productivity**
  - Unlinked passenger trips per vehicle mile (1)
  - Unlinked passenger trips per vehicle hour (2)

- **Cost Effectiveness**
  - Operating expenses per passenger trip (1)
  - Percent cost recovery (2)

*Past Performance*

We also included a measure of past performance in each of these models to account for other factors that might be expected to influence performance. Most of the prior research testing various aspects of the Meier and O’Toole management model (Meier and O’Toole 1999, other Meier and O’Toole pieces, Nicholson-Crotty and O’Toole 2004) have included a measure of past performance to reflect that basic autoregressive nature of the performance of public sector organizations. Past research on strategic planning and performance has included measures of past performance as well (Andrews et al. 2009 and Walker et al. 2010). Thus, in the present study in each model constructed to test the influence of planning process measures on some particular aspect of transit system performance in Fiscal 2008, we included a measure of that same performance indicator in Fiscal 2004 as a control variable. Parenthetically, we found that other variables included as controls (e.g. population density, demographic variables, gasoline prices, transit system size, institutional arrangements, and financial resources as identified in

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\(^6\) Unlinked passenger trips is a measure of passenger boardings on transit vehicles. When a passenger begins a trip on one vehicle but then transfers to a second vehicle in order to reach his/her destination, that counts as two unlinked trips. Unlinked is the standardized measure of ridership reported by transit agencies to the NTD.
previous research on transit performance cited earlier) had no significant impact on performance beyond the effects of past performance, and so they are not included in the models shown below.

**Analysis**

We used OLS regression to analyze the impact of strategy content and development on organizational performance. Given our interest in the effect of strategy on various aspects of transit system performance, we developed separate regression models for eight dependent variables that represent four principal dimensions of performance: efficiency, utilization, system productivity, and cost-effectiveness.

**Findings**

Our findings indicate some patterns for determining the impact of strategic stance and strategy development on performance (see Table 2). Neither the strategic stance or strategy development variables have a consistent, significant association with performance when the indicator is a measure of efficiency or cost effectiveness. This could be because efficiency, as modeled here, is reliant more on factors outside of what management can impact, such external economic factors or funding from governments.

Another story emerges for the effectiveness variables, though, particularly ridership per capita. Neither the stance or development variables have an impact on ridership but all have an impact on ridership per capital. Prospective and defensive stances both have a positive association with ridership per capita. Therefore, agencies the extent to which agencies adopt
these strategies ridership increases per capita. The same pattern that emerged in model with just strategy development holds in the model for ridership per capita. Strategic planning is associated with stronger performance, logical incrementalism with weaker performance, and a benefit for those agencies that do both. This means that when agencies strongly engage in strategic planning there is an additional benefit when also engaging in logical incrementalism. Furthermore, as agencies engage strongly in logical incrementalism, their weakened performance outcomes are helped by doing some strategic planning. While this benefit does not overcome the negative association, it does help.

For the system productivity indicators, the strategic stance variables have no impact on performance. Once again, though, strategic planning and the combination of strategic planning have a beneficial impact on performance while logical incrementalism weakens performance. This, as well as the findings concerning ridership per capita, demonstrates where management strategies are less reliant on outside factors; management can have a strong impact. It is also likely that ridership is something that management can actually focus on and strategize to increase by having advertising campaigns or manipulating fares.

Though none of the findings show a consistent pattern for the cost effectiveness indicators, there are a two findings that are of some interest. First, the findings demonstrate that logical incrementalism increases the cost per each rider, thus weakening performance. The findings suggest that when agencies are more flexible concerning long-term planning, this could negatively impact their cost effectiveness. The second finding of interest is that the prospector stance is associated with better cost effectiveness. The more an agency adopts a prospective stance, their cost recovery increases.
Table 2: Impact of Strategy Content and Development on Performance

<table>
<thead>
<tr>
<th></th>
<th>Efficiency</th>
<th>Effectiveness</th>
<th>System Productivity</th>
<th>Cost Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Prospector</td>
<td>-.797</td>
<td>-3.368</td>
<td>1,538,117.337</td>
<td>26.302*</td>
</tr>
<tr>
<td>SP</td>
<td>.122</td>
<td>.424</td>
<td>155,149.657</td>
<td>.955*</td>
</tr>
<tr>
<td>LI</td>
<td>-.036</td>
<td>1.629</td>
<td>-41,937.693</td>
<td>-1.880***</td>
</tr>
<tr>
<td>SP*LI</td>
<td>.049</td>
<td>.837</td>
<td>255,619**</td>
<td>1.300***</td>
</tr>
<tr>
<td>Past Performance</td>
<td>.918***</td>
<td>.750***</td>
<td>1.068***</td>
<td>1.130***</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>.676</td>
<td>.582</td>
<td>.942</td>
<td>.867</td>
</tr>
</tbody>
</table>

Note: *Significant at the .05 level, **significant at the .01 level, ***significant at the .001 level (one-tailed test)

Conclusion

Our findings indicate that strategy development is consistently associated with better performance when looking at effectiveness and system productivity indicators. However, this is not the case when looking at efficiency and cost effectiveness indicators. Further, we find that strategy content is consistently not associated with all indicators, except for ridership per capita.

This study contains our initial findings. We would like to extend the current study first by looking also at the impact of focusing on the areas listed on performance. We are also interested in how the combination of focus area and stance impacts corresponding performance indicators. For example, the cells that demonstrate the percentages of the stances for financial viability could be used in the analyses for either of the effectiveness measures instead of overall stance.

This research highlights two issues going forward regarding public management research. First, various contexts need to be studied. Our findings differ from previous studies, most likely because our chosen context is very different from other contexts currently being analyzed.
Transit agencies in the U.S. tend to be more competitive and focus on different areas than other types of public organizations. These agencies tend to have more in common with public hospitals or daycare centers than a general local government in the U.S. The findings of this study, or any other study, cannot be generalized for all public agencies in all contexts. Though costly and difficult, data should be gathered on the management strategies of various public organizations to determine whether different types of agencies strategize differently and if those strategies impact performance differently.

Finally, the results of this study demonstrate that public management studies should look closely at the concept of performance when it is utilized as a dependent variable. The type of indicator being used matters in this study. Different dimensions of performance should be analyzed separately, though we admit that this data is even harder to gather than management strategies.
Works Cited


