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Innovation in Government: Workforce Practices

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Contents

Executive Summary

A review of the literature on innovation within government provides detailed case studies on innovative practices adopted by transportation agencies across the U.S. These case studies focus on operational innovations adopted by transportation agencies, particularly innovative workforce practices, rather than policy innovations applicable to the broader transportation industry. After reviewing two anecdotal examples of innovations to expand and maintain transportation infrastructure, the discussion shifts to five different cases studies on innovative transportation workforce practices. These innovative practices target the following workforce challenges which state departments of transportation (DOTs) are currently confronting: recruitment; retention; staff development; organizational change; and succession planning.

The case studies provide specific examples of how innovation occurs in state DOTs. This is particularly important considering the controversy in the public-sector entrepreneurship literature on the need for slack resources. This controversy is more than an academic debate given the fiscal shortfalls in gasoline and automobile tax revenues which are causing slack resources to dry up in transportation agencies across the U.S.

The literature suggests that there may be two different kinds of innovations; those that occur with available slack resources and those that arise out of necessity. Another encouraging sign for transportation agencies that want to become more entrepreneurial is that several of the workforce management practices presented in this review have been successfully adopted by others. This is particularly encouraging for transportation agencies that are facing stiffer competition for the highly-qualified workers they will need to replace those who are transitioning out of their workforces.

Background

In *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector*, Osborne and Gaebler (1992) found that the hallmarks of entrepreneurial government could be distilled down to ten principles. Four of these ten principles:

- measuring performance by focusing on outcomes;
- achieving goals, not abiding by rules and regulations;
- anticipating problems rather than reacting to them; and
- decentralizing authority and encouraging participatory management (pp. 19-20)

are especially relevant to promoting entrepreneurial, or innovative, practices in state DOTs across the U.S. These four principles will serve as the background for this review of the literature on innovative practices adopted by state DOTs to augment their operations. Before discussing specific examples of these innovative practices, it is important to provide a framework within which these best practices can be implemented. To that end, the next three sections discuss the obstacles, controversies and liabilities that the literature on entrepreneurship within government identifies as potential stumbling blocks to more innovative public-sector operations.

Obstacles to Innovation within Government

Harris and Kinney (2003) discuss the incentives and barriers to creative problem solving in the public sector. They cite a number of variables which are related to the decision to innovate. Typically, a problem emerges which compels government to innovate. Nice (1994) found that those problems that are linked to broadly shared policy goals are more likely to spur innovation. However, decisionmakers typically refrain from searching for innovative practices unless dissatisfaction with the current system is palpable. Political factors also influence decisions to innovate. Those innovations that are consistent with established beliefs and values are more likely to be implemented than those that are not.

According to Glor (1998) the following factors also impede risk-taking in the public sector:

- blameability;
- bureaucracy;
- rule breaking;
- capacity constraints;
- innovation as a value;
- innovation as a skill; and
- need for guidance.

The political reality is that politicians demand that public servants be held accountable for the actions, or inactions, of their respective departments: “[t]he practice of blaming public servants for the errors and shortcomings that arise from the political

process or from the constraints of the internal rules and procedures will have to subside if we expect public managers to confront the uncertainties and risks involved with change" (Thomas, 1996, p. 25).

The traditional forms of bureaucracy are useful for translating vague political goals into administrative action. However, efforts to reform public management recognize that structural changes are necessary to empower public servants to do their jobs differently. The various ways that management infrastructure has been changed to empower public servants to be more innovative include: less specialized jobs; flattened hierarchies; promoting teamwork across departments; and relaxed rules for using financial and human resources.

Unfortunately, relaxing rules has sometimes been perceived to confer the right to break the rules. While rules are sometimes broken because public servants don't fully understand these new, relaxed rules, the potential public fallout resulting from perceived wrongdoing is enough to stifle risk-taking for many public servants.

At the same time, public management reform has held out the promise that managers will be able to do more with less. The reality, however, is that capacity constraints make it necessary to do more with less rather than strive to be more innovative in solving problems.

There is also the issue of how management reforms are internalized by public servants, particularly those middle managers who translate their perceptions of senior management's wishes to those who actually deliver services to the public. If management, particularly middle management, doesn't buy into the initiatives for change, then public servants won't value innovation enough to make a difference.

Likewise, valuing risk-taking is often perceived to be at odds with traditional bureaucratic values of accountability and neutrality.

It is also worthwhile to recognize that innovation is a learned skill that public servants need to develop. Many managers at the senior-levels of government may not have had the opportunity to acquire the technical education and the operational experience required to promote innovativeness and reasonable risk-taking amongst their subordinates. If senior management lacks the training and expertise in innovation, then it is unlikely that their departments will become innovative.

Finally, it is not often obvious to public servants how they are supposed to reconcile the seemingly contradictory traditional public service values of accountability and neutrality with new values of entrepreneurship and innovation.

The Controversy over Slack Resources

Much research has been conducted on the determinants of entrepreneurship within the private and public sectors. One question that receives substantial attention is if innovation requires slack resources or if it is driven by the fear of negative outcomes. One the one hand, research has suggested that underutilized resources need to be present in order for innovation to occur (Bingham and McNaught, 1976; Downs and Mohr, 1980). The argument is that innovation requires considerable effort and/or costs, which are associated with searching for and implementing an alternative approach to doing the same or new things. Further, change will likely be resisted by at least some individuals who are used to the old way of doing things and this will more than likely add to the costs of implementing new ideas.

Others take the opposite point of view and have suggested that organizational innovation or entrepreneurial-driven organizational change emerges as a consequence of an outside threat. The thinking is that organizations will only innovate when they need to survive (Leonard and Straus, 1997). Thus, things will only change when they need to change. For example, state-run fleets might only abandon petroleum-based fuels when their costs rise so high as to threaten the ability of the state fleet to operate. Further, new road surface materials will only be sought out if existing materials disappear or become considerably more expensive relative to the alternatives.

While there is no clear cut answer to this debate, insights provided by both sides of the issue highlight an interesting possibility. Perhaps there are really two types of innovation, especially when thinking about innovation within government. On the one hand, there exists a type of innovation that unlocks new possibilities or roles for the

public sector organization; for instance, the development of a new way of melting road ice. Another example could be the development of a new road surface that lasts longer or requires less frequent upkeep. The other type of innovation is that which emerges from outside circumstances. For instance, governmental organizations tend to operate on highly-constrained budgets, which once exhausted leave the unit in a near state of emergency. In times like these, threat innovation would tend to occur. For example, budget crises could lead to an innovation in the way state employees are paid or the reorganization of city bus routes to cut costs. In either case, slack resources are an extremely important issue to consider when thinking about promoting innovation within government. However, the type of organizational innovation sought after, may or may not require slack resources. The relevance of slack resources to entrepreneurship within government may then depend on the type of innovation one is considering and the fiscal circumstances in which a government agency finds itself.

Liabilities of Innovation within Government

The literature on entrepreneurship within government tends to be biased in favor of promoting the benefits of innovation (Nice, 1994; Rogers, 2003). Rarely is it made mention that innovations are not necessarily good or bad. Nor is it recognized that there are liabilities to innovation within government.

First, as alluded to earlier, searching for new innovations is costly. Personnel often need to be reallocated to the search process, research materials need to be gathered and communication needs to be established with experts who can guide the search process. The process of searching for potential innovations is made that much more difficult when personnel resources are also in demand to support governmental operations. It is also costly for organizations to analyze the potential suitability of potential innovations. Bringing in expert personnel, assessing programmatic results and costs, and developing systems to evaluate program options can be very expensive. Adopting an innovation can also create additional costs. The need for additional training, personnel, equipment, and facilities may add substantial costs to the adoption of innovations. Finally, sunk costs in established practices and programs may stymie innovation. Existing practices and programs may have required substantial investments in personnel and infrastructure. The politicians who oversaw the development of these practices and programs may have made large investments in mastering them and overseeing their operations. All in all, changing practices and programs may make past investments appear wasteful.

Innovations also tend to generate criticism and opposition from those who benefit from the status quo. Personnel whose jobs may be eliminated or downgraded can be expected to vigorously oppose innovations. Other personnel may develop emotional attachments to agencies and programs and oppose changes of any kind. Agency and program clientele can also be expected to defend the status quo. For example, paving contractors can be expected to oppose diverting resources from road and highway programs to nonroad transportation programs. Politicians may also not be receptive to change for any number of reasons.

A liability closely related to preserving the status quo is the uncertainty that innovation brings. Numerous uncertainties are associated with innovations. For example, adopting innovations may cost more than expected. Innovations may not be as effective as expected or their benefits may not come quickly enough. It is also possible that people will not react as expected to innovations and this may devalue their effectiveness. Innovations often create indirect effects which result in new problems. Because innovation is synonymous with uncertainty, many policymakers opt for the predictable risks of current programs over the uncertainties associated with innovations.

Finally, the difficulty in getting new innovations adopted or passed into law can put a damper on innovation. Because enacting policy changes is so difficult, officials may be reluctant to even propose new ideas. Those who propose new initiatives that are subsequently defeated may lose prestige and credibility and waste valuable political capital in the process. Overall, the difficulty in getting major changes enacted creates incentives to push minor changes to current programs rather than major innovations.

In the next section specific innovative practices that made transportation operations more effective are discussed. The section presents five case studies on innovative workforce management practices adopted by state DOTs across the U.S. This section concludes with a summary of these innovative workforce management practices.

Innovative Transportation Workforce Management Practices

Workforce management is a term used to describe the set of issues related to the recruitment, retention, development, and general organization of human resources within an organization. These issues are also commonly referred to as human resource management, human resource management systems, personnel planning, or enterprise resource planning; yet the basic underlying issues are fundamentally the same. This set of concerns has become a topic of considerable scholarly activity over the last several decades, especially within the public sector, as it relates to the new public management and state DOTs are no exception (Condrey and Battaglio, 2007). Substantial workforce challenges emerging within state DOTs include: increased retirement eligibility within their workforces; loss of talent to the private sector; and the need for acquiring new skill sets necessary for meeting new technological demands (Gilliland, 2000). To deal with these emerging concerns, many state DOTs have begun to implement innovative solutions to workforce management issues. This section presents five topical areas, deemed particularly crucial to workforce management issues within state DOTs, in order to identify especially promising innovative solutions.

Recruitment

The recruitment of a high-quality workforce is crucial to the success of any large-scale organization and public organizations are certainly no different in this regard. However, the recruitment of high-quality human capital embodied in talented employees is a considerable challenge for public organizations, especially within federal and state

governmental organizations. The challenges facing public sector organizations, like state DOTs, involve not only competing with the private sector for highly-qualified workers at a pay disadvantage but also involve confronting stereotypes commonly associated with working for the government (Montague and Connor, 2008).

How then is a state DOT supposed to recruit high-quality employees in the face of such obstacles? The New York State Department of Transportation (NYSDOT) provides an example of how these organizations can rise to the challenge in today's competitive environment. The NYSDOT has approximately 10,000 employees and over 2,000 engineers, yet is equipped with a meager budget of only $30,000 allocated to its recruitment campaign. As a result, it has developed a set of innovative strategies that it uses to compete with the private sector, amongst other competitors, in order to recruit talented workers to both replace outgoing personnel as well as respond to new challenges. Specifically, the NYSDOT focuses on the following recruitment initiatives:

- streamlining the civil service employment process to reduce hiring times;
- using resumes as opposed to lengthy testing procedures in their evaluation process;
- acquainting prospects with departments, their hiring procedures and general application procedures;
- creating departmental websites that provide information on application and hiring procedures;

- introducing prospects to the diversity of the department in terms of both current employees and professions;
- delegating recruiters the authority to offer outstanding candidates a job before they graduate; and
- implementing an aggressive campus-recruitment program to give students a flavor of the department's projects and work environment.

Aside from these programs, the department focuses on what they can uniquely offer new personnel. For instance, Greg Montague, Director of Personnel at NYSDOT understands that his organization cannot compete with the private sector on the basis of pay and so they focus on what they can offer as a benefit outside of the realm of compensation. As a result, they focus their efforts on promoting the potential to rise through the ranks quickly and the opportunity to work, early in ones career, on exciting large-scale projects.

Retention

Employee retention is another integral part of a top-notch workforce development program and the Pennsylvania Department of Transportation (PennDOT) utilizes several innovative methods to deal with this concern. Specifically, PennDOT allocates full-time quality coordinators to each of its eleven engineering districts in order to facilitate open lines of communication and to proactively identify problems occurring across these districts. Additionally, the department allocates part-time quality coordinators to every central office bureau and has developed a system of cross-unit knowledge sharing,

housed in the Center for Performance Excellence that focuses on employee development, knowledge sharing and process improvement as a means to retain highly-qualified workers.

Further innovations are embodied in an extensive monitoring system specifically oriented toward monitoring the organizational environment, a key to retaining highly-qualified workers. This innovative, internal-development system consists of three primary environmental monitoring surveys designed to assess the effectiveness of the organization as a whole. It consists of three surveys monitoring employee morale, organizational effectiveness, and employee exit decisions.

The Organizational Climate Survey (OSC) includes 100 questions that are designed to assess employee perception across seventeen domains. The survey results are then used to provide feedback on each level of the organization. Based on this feedback, each unit forms a decisionmaking team that is responsible for identifying problems as well as proposing solutions to those problems. The survey is constructed in a bottom-up manner so that it engages employees, harnessing their cross-dimensional skill sets to better solve emerging retention issues.

The PennDOT Employee Morale Survey is another retention innovation. It is an online survey, which can be given at any time in order to evaluate organizational initiatives closer to real time. PennDOT officials believe strongly that increasing morale leads to increased productivity and better rates of retention amongst employees. The Employee Morale Survey is an outgrowth of the OCS and so has the capacity to provide a comparison of any particular work unit's morale with respect to the last OCS. One example of how these surveys contribute to employee retention is evident in comments

conveyed in Harris and Simonton (2008) by Bob Piel, Quality Coordinator for District 1-0 in northwestern Pennsylvania. He points to a situation in which OSC results provided an indication of poor communication between a manager and his subordinates. The manager was unaware of this lapse in communication and actually was operating under the assumption that communications had actually improved. A morale survey was conducted to examine the issue and resulted in a positive change in the level of communication, according to employees, helping to head off potential employee exits.

Another innovative retention method is implemented within PennDOT's operational procedure. This involves evaluating employee exit decisions in a manner that is highly confidential. The approach is to mail the former employee a survey along with a postage-paid return envelope. This type of exit interview goes beyond the conventional form of exit interviews that are conducted by many organizations to ensure a high degree of confidentiality. With that confidentiality, PennDOT is better able to obtain realistic reasons for employee exits and as an organization can more readily identify issues within the organization that need to be addressed to enhance retention.

Staff Development

The development of human capital and the identification of future leaders is an important step in building a high-quality workforce. As a result, when the Connecticut Department of Transportation (ConnDOT) faced a situation where state-level budget cuts lead to the abandonment of a staff development program, ConnDOT decided it was necessary for them to assume responsibility for the program. Responsibility ultimately fell to the ConnDOT Office of Training and Staff Development. The Office relied on in-

house managers as well as former Executive Management Program graduates to develop their own staff development program.

The program is organized around twenty topics deemed necessary for developing internal staff. These topics cover a broad range of functional areas, such as understanding leadership styles, interpersonal effectiveness, transportation financing, coaching strategies for improving employee performance, gender-based communication, continuous improvement strategies, and tools for analyzing and presenting data. The specific program constitutes an eighteen-month core curriculum with potential participants being nominated by each of the five ConnDOT bureau chiefs. Each class contains approximately thirty participants, which are selected by the Office of Training and Staff Development and approved by the Commissioner of ConnDOT. The intent of the program is to develop important skill sets with specific applicability to real-life situations. Participants also hone their leadership skills as well as learn more about ConnDOT operations.

A particularly valuable part of the program is known as The Innovation Project. This part of the program requires participants to select a particular function of ConnDOT; research it, and present their findings. The projects are related to each participants job function with the goal of exploring alternative ways of doing things. One employee in the Research Division, for example, studied better ways to distribute information via streaming video and audio media over the ConnDOT Intranet. Another employee in the transportation planning division studied the alleviation of highway congestion by diverting truck traffic to rail and waterways. Another employee devoted his efforts to

alternative methods for snow and ice control, which has resulted in the state experimenting with liquid calcium as a spreading agent.

The staff development program at ConnDOT is certainly not cheap. It also contributes to considerable opportunity costs in terms of staff salaries and their work-time allocation. However, the cost per participant is still less than $500; a relatively small investment to improve employee performance and harness the innovative capacities of departmental employees (Kanachovski, 2008).

Organizational Change

Organizational change is a pervasive phenomena occurring within all types of medium- and large-scale organizations. Public-sector organizational change has become an important concern in recent years as the pressures of globalization begin to envelope these organizations as well. Thus, the question becomes; how are state agencies and specifically state DOTs able to respond to these pressures in order to reinvent themselves in such as way as to enhance workforce management practices?

The Florida Department of Transportation's (FDOT) revision of career-service rules constitutes one example of a proactive approach to responding to these environmental changes. The particular innovation adopted at FDOT involved a new organizational approach to structuring its operations around how employees do their jobs. Specifically, FDOT reinvented its job classification system to move away from the traditional model, which classified job functions around specific duties and levels of responsibility, to a new model structured around how employees carry out their specific

tasks. The result was a reduction in the number of job classification groups, where FDOT went from approximately 1,700 job classifications to ninety six (Ferguson, 2008).

To achieve this transformation an FDOT project team was created and directed to catalog all aspects of the 1,700 career-service classes and align them with sixteen newly identified occupational classes. The resulting classes were then arranged into six organizational levels, which were based on how people did their jobs. These new criteria were known as pay broadbands. The new broadbands, aside from simplifying the job classification system, permitted the department to develop new compensation, recruitment, selection, and performance-assessment systems. FDOT then went on to conduct a pay survey to determine compensation that better aligned with private sector pay in Florida and used these results to develop sixteen new pay ranges.

The system of broadbanding developed in FDOT is the fundamental innovation driving the reorganization of the department as a whole. Its attractiveness lies both with its simplicity as well as its ability to free the agency from its old rigidities. Before this reorganization, FDOT was bound to hiring and promotion practices that were explicitly linked to candidates educational and work experience. Furthermore, the practices themselves were often mandated by central office personnel who tended to be disconnected from actual situational tasks. The new organizational structure provides lower-level managers with the liberty to promote and compensate employees based on their effort and/or success. As a result, this new organizational structure frees FDOT from its previously rigid, vertically-integrated hiring and promotion structure.

FDOT's new workforce arrangement is popular with its workforce and the flexibility it provides has boosted morale and labor productivity (Ferguson, 2008). Furthermore, the merits of FDOT's streamlined hiring and promotion system have been recognized by the Florida legislature, which, in 2001, passed a bill directing all state departments to adopt pay broadbanding.

Succession Planning

Succession Planning is the last aspect of workforce management practices identified in this review of the public-sector entrepreneurship literature. Succession planning describes a management model that seeks to identify pools of potential future leaders who are capable of filling critical upper-management positions without causing substantial long-term disruptions in operational capabilities. An example of an innovative succession planning model in state DOTs is the one implemented by the Minnesota Department of Transportation (MnDOT) in the mid-90's (Brede, 2008).

MnDOT recognized the need for a formal succession planning mode of operation in early 1994. The original intent of the program was to ensure a smooth transition of incoming management personnel, regardless of whether or not they came from inside or outside the organization. The goal was to ensure that incoming managers were properly aligned with MnDOT's operational mission. Seven functional capabilities underlie the specific framework for determining accountability throughout MnDOT. These competencies are: leadership; learning and strategic systems thinking; quality management; organizational knowledge; technical knowledge; personnel management; and individual-specific characteristics.

With these core areas at its heart, the MnDOT succession planning model relies on a hierarchically-oriented design to identify future department leaders via a four-part process. The first involves gathering data. The second is to identify potential participants. The third is to conduct an assessment of the pool of participants, while the fourth involves obtaining feedback. Data gathering involves several stages. The first of these stages requires that a team of senior-level managers identify emerging issues and predict their future impacts on staffing requirements over a two- to three-year time horizon. The projected adjustments to staffing are then aligned with position-specific competencies to identify necessary qualifications for the incoming manager. The solicitation of participants is based on an interest and qualification survey. A review team then assesses the applications and compiles the results. The assessment is then used to identify candidates for further review. The feedback stage of the process is utilized to provide a way for future managers to identify potential weaknesses, thereby addressing any shortcomings before being called on to fill a new management role.

Summary of Innovative Transportation Workforce Management Practices

Improving workforce management practices are a crucial aspect of sustaining high quality DOTs at the state-level. While a thorough understanding of how these changes can be brought about is still evolving, this research provides a considerable step forward by evaluating a series of innovative solutions along five broad areas encompassing workforce management. Evaluating which domain is most pressing and/or which approach is more promising is a difficult task. However, existing research does

provide noteworthy evidence as to which innovative workforce management practices hold the most promise. For instance, research by Warne et al. (2003) and Winstead (2003) indicates that recruitment and retention issues are of the utmost importance. At the same time, the case study on organizational change at FDOT demonstrates that addressing these issues successfully must inherently involve aspects of organizational change. Thus, the five sub-elements encompassing workforce management cannot be completely disconnected from each other and so they must, in some sense, be reconciled with the particular needs of each DOT in order to successfully address these challenges.

In spite of this fact, the cases identified here do lead to the general conclusion that modernizing the organizational structure of a state DOT along the lines of the organizational changes at FDOT will facilitate changes in recruitment and retention in accord with the best practices already identified. As well, existing survey evidence pertaining to all fifty state DOTs (Warne el al. 2003) support NYSDOT's practices pertaining to recruitment. The same research also provides powerful evidence that FDOT's organizational restructuring is a promising approach to enabling the best retention practices within DOT organizational structures. As a consequence, it is not surprising that FDOT's innovative practice had already diffused and been adopted by twenty-eight other states by 2006 (Hays and Sowa, 2006) and is expected to diffuse even further.

Conclusions

Workforce concerns related to recruitment and retention are crucial factors underlying innovation in the public sector; as high-quality employees are the foundation of an innovative workforce. Further, recruitment and retention issues in state DOTs are even more pressing in light of new research on the hottest fields for new graduates. A survey conducted by *Universum USA* and published in *Business Week* (Gerdes, 2008) suggests that low pay and a rigid set of hiring rules place the transportation industry on the lagging end of fields sought after by younger workers. As such, state DOT's must aggressively compete for and retain a shrinking pool of potential workers in order to achieve the level of innovation necessary to meet the transportation needs of the coming decades.

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