Seven Steps of Effective Workforce Planning

Human Capital Management Series

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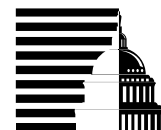
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On behalf of the IBM Center for The Business of Government, we are pleased to present this report, "Seven Steps of Effective Workforce Planning," by Ann Cotten, director of the Schaefer Center for Public Policy at the University of Baltimore.

Successful private and public sector organizations must have robust human capital strategies that enable organizations to meet current and future business needs. Human capital strategies typically focus on workforce planning, talent management, succession planning, leadership, knowledge management, performance management, and accountability.

Perhaps the most critical of these strategies is workforce planning. Workforce planning tells an organization what types of skills are needed to get the job done. In doing so, workforce planning should drive all human capital strategies. Workforce planning is about aligning an organization's human capital—its people—with its business plan to achieve its mission. It helps ensure that the organization has the *right* people with the *right* skills in the *right* job at the *right* time.

This report introduces the Seven-Step Workforce Planning Model, which provides a sound framework for understanding the basic elements of workforce planning. The model incorporates workforce planning concepts from two organizations: the International Public Management Association for Human Resources and the Office of Personnel Management. The report walks the reader through the steps involved in workforce planning, including defining the organization's strategic direction; identifying current and future workforce needs; determining gaps; implementing strategies to close these gaps; and monitoring, evaluating, and revising the gap-closing strategies.

Albert Morales

Solly Thomas

Using the Seven-Step Workforce Planning Model as an analytical framework, Dr. Cotten presents two case studies of workforce planning efforts in public sector organizations: the U.S. Department of Transportation and the Maryland State Highway Administration. She describes the challenges, success factors, and lessons learned from these two case studies.

The report also provides agency leaders and human resources directors with recommendations for successful workforce planning. Finally, the report identifies suggested strategic workforce planning performance measures—related to recruitment, employee retention, training and development, and management of employee performance.

We hope this report will be a useful tool to guide agency leaders and human resources directors through the workforce planning process.

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E X E C U T I V E   S U M M A R Y

Human capital emphasizes the strategic importance of an organization's workforce. In the knowledge economy, the collective set of knowledge, skills, abilities, and competencies—the human capital—residing in an organization's workforce is arguably the most important determinant of an organization's ability to sustain long-term success.

The U.S. public sector is facing human capital challenges much like the private sector:

- Large numbers of skilled employees are nearing retirement.

- Competition for the remaining skilled employees is growing.

- Diversity in the workforce is increasing both ethnically and generationally, making management more challenging.

- Expectations among Generation-X and Generation-Y workers regarding responsibility and work/life balance are dramatically different from their predecessors.

These common challenges are exacerbated in the public sector by an insufficient supply of talent in the leadership pipeline; downsizing; hiring restrictions; and HR systems and policies that are not able to respond quickly to changes in the labor force and the internal and external environments.

While public agencies at the local, state, and federal levels have embraced outcome-oriented management and performance measurement, a much smaller proportion has taken the next step of embracing strategic human capital management. A strategic human capital focus calls for the public sector to

view employees, as well as consultants, temporary staff, and third-party partners, as a pool of talent to be configured and developed strategically to create the most public benefit in the most efficient manner. By taking a more strategic and longer view of the organization's goals and staffing needs, the organization can put into place a plan to build its desired workforce one position at a time.

Workforce planning, a key component of strategic human capital management, is about aligning an organization's human capital—its people—with its business plan to achieve its mission; in other words, ensuring that an organization currently has and will continue to have the right *people* with the right *skills* in the right *job* at the right *time* performing their assignments efficiently and effectively. This report introduces the Seven-Step Model of Workforce Planning; applies the model to two case studies—one federal and one state; and offers agency leaders and human resource managers guidance on implementing workforce planning in their organization.

The Seven Steps of Effective Workforce Planning are:

1. Define the organization's strategic direction

2. Scan the internal and external environments

3. Model the current workforce

4. Assess future workforce needs and project future workforce supply

5. Identify gaps and develop gap-closing strategies

6. Implement gap-closing strategies

7. Evaluate the effectiveness of gap-closing strategies and revise strategies as needed

U.S. Department of Transportation Case Study

The federal case study discusses the U.S. Department of Transportation's (DOT) workforce efforts. This case provides insight into the workforce planning processes of an organization that is required to engage in workforce planning, is supported by the Office of Personnel Management and the Office of Management and Budget, and has dedicated staff resources for planning and implementation. DOT was one of the first federal agencies to be certified as meeting the human capital milestones of the President's Management Agenda.

Key factors in DOT's success were:

- OPM support of the implementation of the human capital initiative with guidelines and access to accurate and timely employee data

- Centralized data collection about employee attitudes through the federal employees' Human Capital Survey

- The creation of the Chief Human Capital Officer position, a senior executive dedicated to leading human capital initiatives

- The ability to share data, tools, and experiences with other federal agencies

- An organization-wide human capital plan that offered flexibility for the individual administrations to identify their own human capital gaps and implement their own strategies

- The establishment of a human capital council working group that addresses key workforce planning issues that cut across the department

- The implementation of the workforce analysis system/civilian forecasting tool to their operating administrations in order to forecast their mission-critical occupations (MCOs)

Key challenges to DOT's workforce planning efforts were:

- The lack of sufficient time and resources to address all of the identified staffing gaps

- As in the case of many federal agencies, a shrinking talent pool and increased competition for talent

There are three lessons to be learned from the DOT case:

Lesson 1: Sharing workforce planning resources, tools, and techniques among various agencies speeds the implementation of workforce planning.

Lesson 2: Time and budget constraints can be significant barriers to implementation.

Lesson 3: Forecasts are useful in projecting likely scenarios.

The Maryland State Highway Administration

The state government case study discusses the Maryland State Highway Administration's (SHA) workforce planning efforts. This case provides insight into how workforce planning can be implemented when it is an outgrowth of an organization's overall management improvement initiative. This example also demonstrates what can be achieved when workforce planning is not mandatory, not centrally funded, and not centrally supported.

Key factors in SHA's success were:

- Strategic leadership of the workforce planning initiative at the highest levels of the organization

- Staff-level champions for each topical area who were willing to become the resident subject-matter expert

- Widespread participation in the workforce planning project by managers and employees

- The ability of workforce planning to bring together a series of seemingly unrelated initiatives into a cohesive plan

SHA's major workforce planning challenges were:

- A lack of comprehensive data sets needed to engage in effective workforce planning

- Insufficient resources to engage in workforce planning

- The absence of a clear workforce planning model at the start of the planning process

Four key lessons can be learned form the SHA case:

Lesson 1: A complete plan is not needed to begin.

Lesson 2: Focused efforts are needed.

Lesson 3: Implementation can occur during data collection and strategy development.

Lesson 4: Consultant resources can help expedite workforce planning and implementation.

Recommendations

From the lessons learned from the DOT and SHA case studies and the guidance of the Seven-Step Workforce Planning Model, the following recommendations are provided for public sector leaders and human resource managers:

Recommendation 1: If your organization is not already doing so, now is the time to engage in a workforce planning effort that is linked to your organization's strategic objectives.

Recommendation 2: Conduct internal and external environmental scans to identify workforce trends in a proactive manner.

Recommendation 3: Focus workforce planning efforts in areas where the most benefit will be achieved.

Recommendation 4: Develop appropriate systems to collect and report on key workforce indicators.

Recommendation 5: Be creative in developing strategies to address workforce planning issues.

Recommendation 6: Develop a "doable" implementation plan.

Why Workforce Planning Is Important

The most recent Bureau of Labor Statistics' Quarterly Census of Employment and Wages indicates that the public sector accounts for 16.17 percent of the U.S. workforce.[1] The majority (13.6 million) of public sector employees work for local governments. The remainder is divided between federal (2.7 million) and state governments (4.5 million).[2] With such a large investment in human capital, arguably one of the most important determinants of an organization's ability to sustain long-term success, it is imperative that public managers develop and use this investment wisely.

Dramatic changes in the workforce, the workplace, and the public's expectations place the value created by public sector employees at risk. Large numbers of skilled employees are nearing retirement; there is insufficient talent in the leadership pipeline as a result of downsizing and hiring restrictions; competition for skilled employees is growing; diversity in the workforce is increasing both ethnically and generationally; and expectations among Generation-X and Generation-Y workers regarding early responsibility and work/life balance are dramatically different from their predecessors. Rapid advances in technology have enabled the public sector to deliver many services quicker and at a higher level than ever before. In the broader picture, the public increasingly demands that government be run "more like a business" while at the same time demands for accountability and transparency are growing. These changes have converged to create a "perfect storm" for public sector human capital management. The old ways of recruiting, retaining, training, and promoting employees are inadequate to meet the challenges of today and the future. The remainder of this section will discuss these trends in more detail.

The Changing Nature of the Public Sector Workforce

In 2006, President George W. Bush and former President Bill Clinton led thousands of baby boomers in the public sector forward toward another milestone—turning 60. As with every milestone this generation has passed, their presence will continue to be transformational. It is difficult to predict when boomers will retire due to the conflicting forces they face. More vibrant than their parents, boomers are not quite ready to trade in their desk chair for an easy chair. With children in college, aging parents to care for, and accumulated debt, many will continue to work well past their retirement eligibility date. Still, earlier retirement will be a viable option for many.

The public sector is at greater risk from the pending retirement wave than the private sector for several reasons. First and foremost are the demographic trends. Employees in the public sector are generally older than their private sector counterparts, a trend that increased from 1994 to 2001.[3] Older workers represent a much larger proportion of the knowledge workers in the public sector (49.3 percent) compared to the private sector (34.8 percent),[4] making it more difficult to recruit replacements who can easily take over for the departing employees. The proportion of older workers is somewhat larger in the federal government than in state and local governments overall.[5] Fifty percent of public sector jobs require specialized knowledge compared to 29 percent in the private sector, making public sector workers more difficult to replace.[6] Second, is the ability of many public sector employees to retire at a relatively young age. With the security provided by their benefit-rich retirement packages, many move on to a second career either at other levels of

government or with companies that serve government agencies. This is particularly attractive to those public sector employees who have developed unique skills or sets of knowledge that make them valuable to the private sector companies that work for government. Third, are the financial incentives for pursuing early retirement, such as early-out packages and voluntary separation bonuses. When combined with retirement benefits, these incentives may encourage early departure of mature employees.

The potential impact of the retirement bubble is exacerbated by the lack of attention paid to developing leaders in the pipeline. During the 1990s, instead of growing a constant stream of leaders, the federal government and many state and local governments decreased their workforces through non-strategic layoffs, early-retirement packages, and hiring restrictions. According to the Government Accountability Office (GAO), the impact on the federal government was significant, with a 17 percent contraction in the federal workforce between 1990 and 1999.[7] State and local governments exacerbated their leadership development problems through the imposition of hiring freezes and hiring caps. According to a 2002 study by the Council of State Governments, 27 states had hiring limitations or hiring freezes in place.[8]

Like the United States in general, the workforce is expected to continue to become more diverse. The percentage of women in the civilian workforce is expected to increase from 42.5 percent in 1980 to 47.7 percent in 2025.[9] The proportion of minorities in the civilian workforce is expected to grow from 18.1 percent in 1980 to 36.5 percent in 2025. For the first time ever, there are four generations working side-by-side: traditionalists—pre-1945 (10 percent of the workforce); baby boomers—1945–1964 (45 percent of the workforce); Generation X—1965–1980 (30 percent of the workforce); and Generation Y—1980 and beyond (15 percent of the workforce).[10] These four generations differ greatly in how they view work and their relationship with their employers.

Changes in the Workplace

The worksite of a typical government employee today bears little resemblance to the worksite of 10 or 15 years ago. The personal computer and the Internet have revolutionized the way in which work gets done. Barriers to communication and information

sharing have crumbled. Employees have instant access to information; they meet with people from around the country without leaving their office; and they have immediate contact with citizens, who can request assistance with the push of a send button. The trend toward downsizing and outsourcing has transformed many skilled public sector employees from providers of products or services to managers of contractors who provide products and services. This seemingly small change in job duties requires a dramatically different set of skills. For countless positions, work is not something that must be performed in a prescribed place and in a prescribed manner. With cell phones, PDAs, and laptops, employees can have a virtual office almost anywhere. To be productive, these employees must be good at self-management and their managers must be skilled at defining expectations. With advances in technology occurring at an ever-increasing rate, the public sector is likely to continue to experience a mismatch between the skills employees have and the skills agencies need.[11]

Changing Public Expectations

Public sector organizations and employees at all levels are facing increased public scrutiny. Strategic management and performance measurement initiatives in the federal government such as the Government Performance and Results Act (GPRA), Program Assessment Rating Tool (PART), and managing-for-results programs all seek to hold agencies accountable for the public dollars they spend. At the federal senior-executive level and in some state and local governments, pay-for-performance systems are also gaining popularity.[12]

The 24/7 access to goods and services available in the private sector has altered the public's expectations for services from the public sector. Citizens want to be able to do business online with the government just like they do with private companies. They also expect quick responses to questions and immediate assistance similar to that provided by the private sector.

Changing Views of Workforce Management

To many, the term *human capital* emphasizes the strategic importance of an organization's workforce as the major input to production. In light of the evolution of the U.S. economy, the change of terminology

Acronyms and Abbreviations

AASHTO	American Association of State Highway Transportation Officials		**MARAD**	Maritime Administration
ADE	Assistant District Engineer		**MCO**	mission-critical occupation
ALP	Advanced Leadership Program		**NHTSA**	National Highway Traffic Safety Administration
ARME	Assistant Resident Maintenance Engineer		**NPR**	National Performance Review
CHCO	Chief Human Capital Officer		**OIG**	Office of the Inspector General
CIVFORS	Civilian Forecasting System		**OLA**	Maryland Office of Legislative Audit
CPAT	Capability Planning and Analysis Tool		**OMB**	Office of Management and Budget
CPDF	Civilian Personnel Data File		**OMT**	SHA's Office of Materials and Technology
DBM	Maryland's Department of Budget and Management		**OPM**	Office of Personnel Management
DOT	U.S. Department of Transportation		**OST**	Office of the Secretary of Transportation
eHR	Enterprise Human Resources		**PART**	Program Assessment Rating Tool
eLMS	Electronic Learning Management System		**PDP**	Professional Development Plan
FAA	Federal Aviation Administration		**PHMSA**	Pipeline and Hazardous Materials Safety Administration
FHWA	Federal Highway Administration		**PMA**	President's Management Agenda
FMCSA	Federal Motor Carrier Safety Administration		**RITA**	Research and Innovation Technology Administration
FRA	Federal Railroad Administration		**RME**	Resident Maintenance Engineer
FTA	Federal Transit Administration		**SHA**	Maryland State Highway Administration
GAO	Government Accountability Office		**SLSDC**	Saint Lawrence Seaway Development Corporation
GPRA	Government Performance and Results Act		**SMQC**	Statewide Maintenance Quality Council (Maryland)
HCAAF	Human Capital Assessment and Accountability Framework		**SMT**	Senior Management Team
IPMA-HR	International Public Management Association for Human Resources		**STB**	Surface Transportation Board
LEAD	Leadership Education and Development Program		**WASS**	Workforce Analysis Support System

aptly reflects the change that must occur in our view of the public sector workforce. During much of the 20th century, improvements in productivity and the ability to maintain a competitive edge were driven by improvements in the elements of production—raw materials and capital investments. Emphasis was placed on getting raw materials to manufacturing facilities as inexpensively as possible. Improvements in factory layout and the efficiency of equipment led to increases in productivity. Workforce planning was not an issue because workers were interchangeable and easily replaceable. Companies invested little in training and workforce development.

In the knowledge economy, the collective set of knowledge, skills, abilities, and competencies developed by an organization's workforce are arguably the most important determinants of an organization's ability to sustain long-term success. In federal and state government agencies, the workforce investment is tremendous—the federal government employs 2.7 million people and state governments employ another 4.6 million people.[13]

While some say the sky is falling and the United States will experience a severe shortage of workers, others liken the "crisis" to Y2K—full of hype, but, in the end, the crisis fails to materialize.[14] Regardless of whether the boomer exodus is massive and sudden or slowly increases over the next five to 10 years, one thing remains clear: The public sector must be strategic in how it recruits, retains, trains, and manages its workforce.

GAO designated strategic human capital management as a government-wide, high-risk area in 2001.[15] In his testimony, U.S. Comptroller General David M. Walker stated that "effective human capital management is the missing link in the federal management framework."[16] He also said that "human capital shortfalls are eroding the ability of many agencies—and threaten the ability of others—to economically, efficiently, and effectively perform their missions."[17]

President George W. Bush identified strategic human capital management as his first priority in his President's Management Agenda.[18] The expectation was for the culture of federal government agencies to shift to a higher level of performance where skilled, high-quality employees are attracted and

retained; performance incentives are clear and carefully aligned to achieve the agency's mission; agencies meet and exceed performance standards; and, finally, accountability is clear with quick rewards for good performance and real consequences for performance failure.[19]

Eight states have embraced strategic workforce planning as an integral component of their government management model. Three states, Georgia, Virginia, and South Carolina, earned an "A" on the Government Performance Project's 2005 Grading the States Report for their efforts to effectively manage their human capital.[20] Each of these states has centralized workforce planning and an integrated human resources information technology (IT) system that provides accessible, real-time workforce data.

A strategic human capital focus calls for the public sector to shift from its traditional paradigm that valued backfilling vacancies as quickly as possible to a new paradigm that views employees, as well as consultants, temporary staff, and third-party partners, as a pool of talent to be configured and developed strategically to create the most public benefit in the most efficient manner. By taking a more strategic and longer view of the organization's needs, the organization can put into place a plan for it to evolve one position at a time.

The Seven-Step Workforce Planning Model

Workforce planning is more than the 3R's of recruitment, retention, and retirement. It begins with a sound strategic business plan, reliable and available workforce data, a strong internal and external analysis, and a keen awareness of trends at the local and national level that impact how an organization does business and the types of skills an organization will be able to attract. It is about aligning an organization's human capital—its people—with its business plan to achieve its mission, or, in other words, ensuring that an organization currently has and will continue to have the right *people* with the right *skills* in the right *job* at the right *time* performing at their assignments efficiently and effectively.

More formal definitions include that of the National Academy of Public Administration:

> Strategic workforce planning is a systematic process for identifying the human capital required to meet organizational goals and developing strategies to meet these requirements.[21]

The International Public Management Association for Human Resources' (IPMA-HR) definition is similar, but more comprehensive:

> Workforce planning is the strategic alignment of an organization's human capital with its business direction. It is a methodological process of analyzing the current workforce, identifying future workforce needs, establishing the gap between the present and the future, and implementing solutions so the organization can accomplish its mission, goals, and objectives.[22]

Seven-Step Workforce Planning Model

Step 1: Define the Organization's Strategic Direction

Step 2: Scan the Internal and External Environments

Step 3: Model the Current Workforce

Step 4: Assess Future Workforce Needs and Project Future Workforce Supply

Step 5: Identify Gaps and Develop Gap-Closing Strategies

Step 6: Implement Gap-Closing Strategies

Step 7: Evaluate theEffectiveness of Gap-Closing Strategies and Revise Strategies as Needed

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From these definitions one might get the impression that workforce planning is a rigid "system" that must be implemented agency-wide in order to do it "right" and reap the benefits. While many organizations follow a systematic approach, there is no one-size-fits-all workforce planning program. However, workforce planning programs do share some common elements including:

1. Alignment with the strategic goals of the organization

2. Identification of the human capital needed to achieve the goals

3. Alignment of human capital as needed to ensure success

4. The creation, implementation, and evaluation of strategies to ensure the right mix of human

capital is currently and will continue to be available when and where needed

The Seven-Step Workforce Planning Model presented in the box on page 13 provides a sound framework for understanding the basic elements of workforce planning. The model incorporates concepts from the IPMA-HR generic workforce planning model and the Office of Personnel Management (OPM) workforce planning model. The details of each of these steps are discussed in the paragraphs that follow.

Step 1: Define the Organization's Strategic Direction

Strategic planning and strategic management practices have become the norm in many public sector organizations. A well-crafted strategic plan clearly states the organization's mission and identifies the primary strategies the organization will follow to achieve meaningful results. Defining mission, vision, goals, and objectives has become fairly widespread, and agencies have begun to address issues of performance data reliability. However, two other strategic planning challenges remain. First is linking financial resources (budget) to the strategic plan. Second, and most important for this discussion, is aligning human resources to the strategic plan.

The workforce planning cycle starts by reviewing the performance requirements of an organization's strategic plan and identifying the core or strategic skills and competencies needed for success. The strategic plan may also provide insights into expected changes in the volume of work, geographic distribution of work, modes of service delivery, hours of access, or types of clients served. Changes in any of these elements of the plan can have significant implications for the agency's demand for particular skills or competencies.

Step 2: Scan the Internal and External Environments

Organizations do not operate in a vacuum. Therefore, a review of demographic, social, political, economic, and technological issues and trends that may impact how an organization provides services, who it serves, or who it employs is an important step in workforce planning.[23]

The external analysis should have both a macro and a micro focus. At the macro level, there are many publications about industry trends, trends in public sector employment, labor market forecasts, and technology trends that can inform the planning group. These publications are available from organizations like the Bureau of Labor Statistics, industry trade groups, and professional associations. Examples of macro trends include the aging workforce, changing expectations of workers, the increased appeal of public service post-9/11, changes in how people access and use information, and the proliferation of the Internet.

At the micro level, the planning group should be looking at what is going on in the spheres in which the organization operates, such as the characteristics of the local labor supply, the strength of the economy, the appeal of the area to prospective employees, the political environment, and the demographic makeup of both the customer population and the population of potential employees. Examples of micro-level trends include a change in political leadership, changes in the capacity or availability of vendors to provide needed services, the availability of degrees from local universities in critical disciplines, projected shortages or surpluses in key occupations, and the strength of competition for employees with critical skill sets.

The external analysis need not be exhaustive or incredibly time-consuming. Rather, it is meant to highlight for the planning team how potential changes in the external environment will impact what they do; for whom they do it; and how they will recruit, retain, and develop the workforce they need. Once a sound external analysis is conducted, it can be reviewed and updated as part of the planning cycle to identify any significant changes in the environment.

The internal analysis should focus on factors such as workforce trends, efficiency of HR transactions, organizational structure, organizational culture, employee morale, and current levels of performance. Workforce trends include items such as retirement risk in key leadership or technical positions, the level of succession planning, the age distribution of the workforce, recruitment and retention statistics, and the proportion of positions filled by internal candidates. Another important trend to monitor is

the amount of compensated and uncompensated overtime. Doing more with less often means that those who are left work more and not smarter. Increases in overtime that are not planned as part of an emergency response system or that cannot be directly related to a specific unexpected crisis may signal the need for more staff, IT improvements, or business process redesign.

For many agencies, internal workforce analysis is difficult at best due to a lack of robust HR information systems. Many public agencies are using old, outdated mainframe information systems with limited capacity and flexibility to manage and report HR data. In a report on a survey of 200 public sector HR professionals, 32 percent identified poor IT systems as a barrier to improving HR functions and only 31 percent described their organization's use of IT as comprehensive.[24] Thus, an assessment of HR transaction efficiency and effectiveness is also appropriate as part of the internal analysis.

Knowledge of the organizational culture and level of employee morale is helpful in the strategy development and implementation phases of workforce planning because it provides insight into which workforce strategies are most likely to be successful.

An analysis of the strengths and weaknesses of the organization can identify human capital challenges and opportunities. For example, in many public organizations, there are employees nearing retirement who have dedicated their careers to the organization and its mission. These employees possess a wealth of knowledge about their job, their organization, and the networks in which they operate. While such employees are assets, they also pose a significant risk to the long-term success of the organization. If these employees do not transfer their knowledge to the next generation of leaders or institutionalize their knowledge, the information will be lost. Another example is the pending hiring boom. Agencies that can think strategically with a long-term view of their workforce needs can start today to create the type of workforce that will be needed in the next five to 10 years.

Step 3: Model the Current Workforce

A strong understanding of the characteristics, capabilities, and distribution of the current workforce is necessary to project how the workforce will change during the planning horizon and provides the fundamental understanding of the workforce needed to develop effective gap-closing strategies. When modeling the current workforce, organizations must include permanent employees, supplemental direct-hire employees, and contract workers:

- **Permanent employees** are on the organization's payroll, have regular work hours, and are entitled to receive the benefits of regular employment offered by the organization.

- **Supplemental direct-hire employees** are on the payroll of the organization, but do not have regular work hours and are not entitled to full benefits of employment. Supplemental employees work on a temporary, seasonal, or on-call basis.[25]

- **Contract workers** are employees whose "labor is procured through a contractual mechanism with a third party, such as a staffing agency."[26] They are employees who "work exclusively at the customer's site, and whose work activities are integrated with those of the customer's employees."[27]

In some organizations, data on the current permanent and supplemental workforce comes from the HR department and contains basic information such as name, education level, position title, salary, years in current position, and retirement eligibility date. These databases offer a good staring point, but they are insufficient to meet the needs of workforce planning. Because employees are the assets of production, leaders developing workforce plans need to know what skills the employees possess, what skills they are capable of learning, where they aspire to move in the organization, and how long they plan to stay with the organization.

An employee skills inventory can be a useful component of the workforce inventory.[28] Not only can the inventory assist in projecting the availability of needed skills in the future or in identifying potential internal applicants for vacancies, it can also be a tremendous asset to identify employees with specific skills that may be needed for short-term projects.

It is not uncommon for public organizations that have experienced downsizing, workload increases, or mission creep to employ a significant number of

contract workers as a complement to their regular workforce. In most ways, these employees appear and function like regular employees—they use the organization's workspace and equipment; they perform almost all of the same functions as regular employees; and, most importantly, the organization depends upon them to achieve its mission. These employees are often referred to as "contractors." Excluding these employees from the current inventory would under-represent the level of effort required to achieve the current results. Therefore, contract workers should also be considered in the current workforce inventory. Data on contract workers can sometimes be obtained from the HR department and/or the procurement department or other similar office in charge of managing contracts for contract workers.

Often, the value of a workforce inventory is at the micro level. For example, a relatively new organization may have an above-average distribution of young managers, with one or two departments such as finance or procurement having a significant proportion of employees that are nearing retirement. In this situation, an overall workforce planning strategy may focus on retention, leadership development, and cross training. While this strategy is appropriate for the overall organization, in the departments where retirements are imminent, strategies such as knowledge management, mentoring, and job shadowing is a more appropriate course of action.

Step 4: Assess Future Workforce Needs and Project Future Workforce Supply

From the environmental scan, the workforce planning team will have a good idea of the core functions in which the organization must excel to achieve its mission. The next step in the process is to project the future workforce needs. Workforce need is often referred to as workforce demand. A parallel step is to project the composition and characteristics of the workforce the organization will have in the future if trends remain unchanged. This projection is often referred to as workforce supply. Workforce supply and demand models can be computed with a general assessment of trends or with more sophisticated mathematical models. Organizations without access to workforce databases should not skip this step. Instead, they should work with the information that

is available and develop a long-term plan to collect and analyze workforce data on a regular basis.

Assessment of Future Workforce Needs

In the public sector, projecting future workforce needs is a relatively new phenomenon. The assessment requires leaders to think critically about how the organization will do business in the future. Assessments can be complex, data-driven models for organizations with sound workforce data or more qualitative estimates developed by the organization's leadership team for organizations that lack strong workforce data. Regardless of the technique used, one maxim applies: Bad assumptions create bad models. Therefore, it is important to vet the model's assumptions thoroughly.

The workforce demand forecast is an estimate of the number and mix of employees that an organization will need in the future. Particular attention should be paid to identifying and projecting mission-critical occupations. The forecast has two components: first, the estimated workload and related staffing requirements; and, second, the likely competencies and skill sets needed. Guidance for both is provided by the strategic plan.

Estimating workload is the heart of demand forecasts. Like the workforce supply projections, workload projections can be based on qualitative models, quantitative models, or a mix of the two. The key outputs of workload projection are the estimate of the type and volume of tasks to be performed and how many people will be needed to perform the tasks. The projection of the type of work and, to some extent, the volume of work is grounded in the direction provided by the strategic plan. The environmental scan provides input into the workload analysis as well. For example, projected increases or decreases in the population served will have a corresponding impact on the volume of work. Advances in technology may alter how tasks will be performed, with a corresponding impact on the number of employees needed and the skills needed.

Staffing requirements can be estimated through quantitative and qualitative techniques as well. High-volume tasks that are mostly standardized are well suited to more quantitative analysis. Specialized, unique, or low-frequency tasks are

more suited to qualitative techniques such as expert panel reviews or Delphi analyses.

The Delphi technique is a tool originally developed by the Rand Corporation to gather the collective wisdom of a group of experts in situations where conventional data analysis techniques were too costly or where analysts needed to employ so many assumptions to make the techniques work that the validity of the final model is suspect. Under the Delphi technique, a panel of experts is convened and sent a survey to complete on the topic at hand. The results are tabulated and shared with the individuals. The experts are then asked to complete a new survey on the same topic that has been modified to include the results of the first survey. There are usually several rounds of surveys. While participants get to respond to the collective findings in the follow-up surveys, they do not engage in direct discussion and they are often not known to one another (Linstone, et al., chapter 1).

Estimating the skills and competencies that will be needed in the future is somewhat more challenging than estimating the future volume of work. How key competencies required to complete core functions are defined impacts the number of employees and has a significant impact on staffing projections. Employees with higher-level skills are able to work more efficiently than those with lesser skills. Workforce planning provides the opportunity for the organization to assess the competencies required to make each position function *optimally*. The focus should be on the ideal competencies that will be needed in the future and not just the skills and competencies of the incumbent in a given position. By thinking strategically about the skills that will be needed in the future, organizations can make the most of each position instead of designing positions and workflow to suit the skills and background of the incumbent. Industry trends identified in the environmental scan can provide useful insight when developing the competency requirements.

In summary, workload analyses tell managers how much work will need to be done, staffing analyses project how many people will be needed, and competency assessments tell managers what types of skills the workforce will need to develop to be successful.

Projection of Workforce Supply (Number of Employees by Skill Group)

Workforce supply is, at its most basic level, the current workforce plus new hires less projected separations at some specific date in the future (see Figure 1). For some organizations, projected workforce supply will be the result of a sophisticated mathematical model. For others, it will be an educated guess based upon data collected in the environmental scan. For most, it will be somewhere in between.

No matter the level of sophistication, all models need to consider the same elements when projecting the future workforce composition: the inventory of the current workforce; the rate at which employees in specific occupations and at various leadership levels will leave the organization; what types of skills and abilities the organization will be able to

Figure 1: Projecting Workforce Supply

Start with Current Workforce	Add	Subtract	Compute Workforce Supply
Permanent employees	New hires	Retirees	Permanent workforce
Supplemental direct-hire employees	Transfers	Voluntary separations	Supplemental direct-hire employees
Contract employees	Supplemental direct-hire employees	Involuntary separations	Contract employees
	Contract employees		

attract; how the permanent workforce can be supplemented; and how the skill set of those who remain will or can change.

When computing how many people to add to the current workforce inventory, workforce planners must forecast who they will be able to recruit and what skills they will bring, how many supplemental direct-hire employees will be available to the organization and what skills they bring, and what skills they will be able to acquire though the use of contract employees.

The forecast of new hires (the recruitment forecast) is arguably the most difficult component of the supply forecast. Whereas current and historical data provide a foundation for the current workforce inventory and the separation forecast, the recruitment forecast is influenced by many variables outside the control of the organization. From the environmental scan, the workforce planning team should be able get a good idea of the general availability of the skill sets that will be needed. The most challenging part of the forecast is projecting the organization's ability to be a successful recruiter of the talent it needs. Recruitment success depends upon economic conditions, the local market for specific skills, and the competition for labor. While it may be hard to forecast precisely whom the organization will be able to hire, it should be relatively easy to identify positions that will be harder-than-average to fill. Another difficult component of the recruitment forecast is the unknown needed skill sets. No matter how well the organization plans, there is always a possibility that people will be needed to fill jobs that currently do not exist. The key in recruitment forecasting is to remember that it is a forecast—an imperfect projection of the future supply.

Projecting the availability of contract employees is another important component of the supply forecast. Because the companies for whom these employees work usually compete in the same labor market as the public sector organization, they can be subject to the same labor shortages and skill deficits as the public organization.

Once the current workforce inventory and recruitment forecast are complete, the next step is to forecast how many people will stay with the organization

and why. Attrition stems from both voluntary separation (retirement, transfer, or resignation) and involuntary separation (termination for cause, layoff, long-term medical leave, death, or medical retirement). Once again, for strategy development purposes, it is important to assess attrition at the micro and macro levels. In the case of voluntary separation, it is essential to collect information on why employees are leaving, where they are going, and what types of jobs they are taking. High turnover in a specific department or job classification may be a signal that salaries in the classification are too low, workload is too high relative to the salary, or working conditions are sub par. Micro-level knowledge is useful for developing targeted workforce planning strategies.

The current workforce inventory must be compared to the assessment of the future workforce needs to identify the human capital gaps that must be filled to achieve organizational success.

Step 5: Identify Gaps and Develop Gap-Closing Strategies

At its most fundamental level, gap analysis identifies the deficit or surplus between the projected workforce supply and the projected workforce demand. How an organization will reduce the surplus and overcome deficiencies provides the substance of the strategic workforce plan.

Gap Identification

From the comparison of workforce supply and demand, organizations will be able to identify gaps—those particular areas where they will need more employees, need different skill sets, or need to redesign positions and work processes.

Gap analysis can be as simple as assessing the number of key leadership and technical positions that will need to be filled in the next five years. More commonly, gap analysis focuses on identifying critical professions where the organization expects to have a shortfall and new skills that will be needed that are not easily available in the organization or in the local labor market.

Most of the emphasis in gap analysis is on identifying and correcting expected deficits. Much less attention is paid to identifying employee surpluses.

As organizations take advantage of improvements in technology, outsource support functions, and change the way they do business, there will be people whose skills are no longer needed.

Development of Gap-Closing Strategies

How the gap between supply and demand will be closed is at the heart of workforce planning strategy development. State, federal, and local government agencies employ a variety of techniques to close the gap. Gap-closing strategies fall into five groups:

1. Retaining good employees with needed skills

2. Recruiting good employees with needed skills

3. Developing employees

4. Retaining organizational knowledge and building employee skills

5. Reducing overstaffing

Some of the more common gap-closing strategies used by federal and local agencies are summarized below.

Strategies for Retaining Good Employees with Needed Skills

Public sector agencies are often challenged to keep highly skilled and productive employees. The two primary avenues by which organizations lose employees are retirement and voluntary separation, which usually means the employee found a better job.

Public sector organizations may be unwittingly hastening the retirement of their employees by offering them benefit-rich retirement packages at relatively young ages that enable them to collect their pensions and receive healthcare benefits while they are simultaneously working for another employer. It is not unheard of for employees in the federal sector to retire on Friday and return as a contract employee to a similar job in the same organization the following Monday. Some government organizations limit this practice by having policies that prevent employees from returning as contract workers.

Another tool for blunting the potential impact of mass retirements is phased retirement. Some employees would prefer to work part-time and/or cut back their level of responsibility instead of retiring completely. This option is often precluded because agencies

do not consider it a viable employment option and sometimes the rules that determine employees' retirement benefits penalize employees for working on a part-time basis. Allowing valuable employees a more gradual entry into retirement has the potential to be a win-win strategy.

Retaining quality non-retirement-age employees is frequently a particular challenge for government agencies, which often pay less than their private sector counterparts and in some instances pay less than other government entities in the same region. Addressing the work/life balance seems to be a key factor in employee retention. Some of the more successful strategies employed by federal agencies include alternate work schedules, employee assistance programs, child care centers and assistance, subsidized transportation, telecommuting, and retention bonuses.[29] Other strategies include job enrichment, job sharing, tuition remission, differential pay for advanced education or certification, and regular competitive salary reviews.

Strategies for Recruiting Employees with Needed Skills

Recruitment poses particular challenges for government, especially when the agency needs to attract specialized or technical skills, or when the supply of needed skills is limited in the hiring area. Some of the more effective recruitment strategies include special hiring bonuses, accelerated or special hiring authority, relocation bonuses, and outstanding scholar programs allowing high-quality students to be hired quickly.[30] Employee referral bonuses and differential pay scales have also been used effectively.

For some agencies, the recruitment problem begins with the pipeline of employees. In some cases, there are not enough qualified applicants in their hiring market. In these instances, government agencies have been known to team up with local high schools or colleges to develop training or degree-granting programs. Some agencies recruit students while they are still in school and pay for them to attend college based on their promise to stay with the agency for a fixed period of time after graduation.

Another issue with worker availability occurs when agencies have the talent they need, but that talent is assigned elsewhere in the organization. Relocation authority is important, especially for assignments that are less than desirable. Management needs

the authority to shift managers and employees around as needed to best assist the organization in the achievement of its mission. However, reassignment authority should be used judiciously since its abuse may increase the voluntary turnover rate in the organization.

With lean staffing patterns in many agencies, significant spikes in workload can be a major drain on the workforce. Some of the strategies for dealing with workload peaks include hiring supplemental staff via private companies or hiring retirees as temporary staff. Chronic staffing shortages need to be addressed in a more permanent manner. When hiring additional agency staff is not viable, agencies can look at outsourcing their non-mission-critical functions and positions to free up positions to hire people in mission-critical areas. Another common solution is to hire supplemental staff through a third party. This is often a good solution for functions like IT, where the skill sets are constantly changing and the agency has difficulty retaining employees with the right skills.

Strategies for Developing Employees

Employee development is a continuous process, and strategies relating to employee development should be in sync with the organization's strategic priorities. A basic employee development strategy is the continual reassessment of the training curriculum to ensure it supports the organization's needs. Cross training has been a popular strategy as a tool for ensuring adequate coverage of a particular function. However, strategies such as job rotation, temporary assignments, and shadowing have the added potential to increase the employees' skills and understanding of the organization while facilitating improved communication across the organization and boosting the organization's creativity in problem solving.

Strategies for Retaining Organizational Knowledge and Building Employee Skills

Transferring accumulated knowledge and wisdom from senior employees to their replacements is a significant challenge. Phased retirement is one strategy for knowledge transfer. Another option is the use of personal services contracts or temporary employment contracts to hire retirees back on a limited basis to work on special projects or participate in knowledge documentation projects. Parallel appointments are another good tool for knowledge management

and knowledge transfer. This is especially true for highly complex or specialized jobs.

Succession planning programs are useful for building organizational knowledge while ensuring that a strong pool of potential successors will be available to replace retirees. Common activities included in succession planning programs are job shadowing, job rotations, mentoring, and formal professional development.

While it may seem obvious, documenting processes, procedures, and best practices is a good basic knowledge management strategy. The use of communities of practice is a less well-known strategy. In communities of practice, people meet regularly with members of their professional peer group to discuss best practices, share information, and serve as resource people for other members of the community. Communities of practice can be helpful in building and maintaining a base of topic- or function-specific knowledge within an organization.

Skill development is an important component of workforce planning. Since the skills needed in the workforce are always changing, employee development will always be an important component of strategic human capital management. Employee development strategies can include training programs, tuition reimbursement, job rotation, and mentorships. These activities serve to professionalize the organization, improve work quality and consistency, and prepare people to advance in the organization.

Strategies to Reduce Overstaffing

In every workforce planning effort, there will come a time when it is clear that some employees have skills that do not match the agency's needs. In the private sector, these employees would typically be laid off or fired. In the public sector, this strategy is often not viable. Fortunately, there are a number of viable strategies for dealing with skill mismatches including retraining or reassignment. In situations where a function is outsourced, the outsourcing contract can require the vendor to interview those agency personnel who perform the function in-house. Other options include offering voluntary separation incentives, also known as buyouts and voluntary early retirements.[31] Finally, when layoffs are unavoidable, offering retraining and/or outplacement services may be a viable option to help the employees while maintaining morale in the organization.

Step 6: Implement Gap-Closing Strategies

With critical thought and reasonable data, workforce planning teams are able to develop sound strategies to address the most significant workforce challenges. However, implementing gap-closing strategies requires much more time, attention, and resources. Assuming an agency has developed sound strategies, leadership, communication, and supporting resources are critical to successful implementation.

As with any change initiative, agency leadership support is critical to implement the more novel initiatives to address workforce supply gaps. Leaders are in a unique position to challenge their employees to test the bounds of the flexibilities allowed under the current personnel system, identify creative solutions to workforce challenges, and provide resources necessary to support implementation.

Communication is another critical component of change initiatives. Leaders and workforce planning team members must communicate with managers and employees about the goals, scope, and time-frame of the workforce planning effort. Once strategies are ready for implementation, they must be communicated broadly as well. Managers and supervisors need to understand their roles and responsibilities in workforce planning, and employees need to understand their rights.

Key stakeholders should be consulted during the design and implementation of workforce planning strategies. For example, union and employee representatives can provide insight into the views of employees or potential employees that can be invaluable during the strategy development and implementation steps.

Strong IT systems and appropriate levels of staff and financial resources facilitate successful implementation of gap-closing strategies. States that are the most successful at workforce planning have sound, integrated IT systems for human resources with workforce data readily available for managers and supervisors who are involved in day-to-day workforce planning.[32] Centralized support and guidance were also provided in these states.[33] This is also true in the federal government, which through OPM has invested significant resources in developing, implementing, and supporting workforce planning across all agencies.

A lack of sufficient resources—both human and financial—has been a barrier to successful and timely implementation of gap-closing strategies. This barrier seems most significant in agencies where workforce planning is not mandated or centrally supported. However, it has also been a problem in federal agencies where staff, funding, and IT resources have been appropriated. The implication for HR managers is that they will need to be judicious when selecting which strategies to implement and then provide resources to support implementation.

Step 7: Evaluate the Effectiveness of Gap-Closing Strategies and Revise Strategies as Needed

The final step in the Seven-Step Workforce Planning Model involves evaluation and revision. Monitoring implementation and evaluating results provide the early warning system that organizations need to ensure that their workforce planning assumptions are valid, their strategies are being implemented as planned, and, most importantly, the strategies are having the desired impact. Monitoring occurs at two levels. First, agencies must monitor plan implementation. In other words, "Are the strategies being implemented as intended?" Second, agencies must monitor impact by asking, "What results, intended or unintended, have been achieved as a result of the strategies?"

Assessing the degree of strategy implementation often requires the use of performance data. For example, if an agency is in a tight labor market for scientists and has identified delayed approval to hire as a recruitment barrier, it may implement strategies to reduce the approval time or to provisionally hire people who are likely to pass the screening. Tracking the use of provisional hiring is one way to assess the degree to which the strategy is being implemented.

If strategy implementation is on track, the agency can move to evaluate the impact that the strategies are having on reducing workforce gaps. If strategy implementation is off track, agency leaders need to assess the reasons why. Some of the possible reasons

why strategies are not being implemented include employee resistance, lack of awareness of the strategy, lack of knowledge about how to implement the strategy, insufficient resources, or intervening external events. Once the reasons are identified, top leadership support and attention may be needed to remove the barriers to implementation.

Assessing impact requires performance data that many public organizations lack. While the federal government, through OPM, has an excellent system for collecting and reporting workforce data, the same cannot be said for most state and local governments. Research conducted by the Government Performance Project identifies the lack of timely and accurate workforce data as a barrier to workforce planning efforts in states across the country. States such as Georgia and Michigan that have excelled in workforce planning owe their success in part to excellent integrated HR IT systems.

Evaluation of workforce planning looks to assess whether or not the strategies implemented have made a difference in closing the gap or addressing the workforce problem identified in the environmental scan, to consider whether there have been unintended consequences of the strategies, and to identify changes in the internal and external environment that mitigate the need to implement specific strategies. Common evaluation indicators include workforce demographics, demographics in mission-critical occupations or positions, measures of workforce gaps, retention rates, and employee climate assessments. A list of commonly used workforce measures is included in Appendix IV.

Good workforce planning is about process as well as outcome. From the process perspective, the agency must evaluate if it has good systems in place to identify emerging trends in workforce supply or demand. Does the agency have a process in place for scanning the internal and external environments to identify technology shifts or best practices that can help the agency staff most effectively? Are procedures in place to regularly review work processes to identify methods for reducing costs and/or improving efficiency?

Because the external and internal environments are constantly changing, workforce plans must remain dynamic as well. It is important to engage in a regular
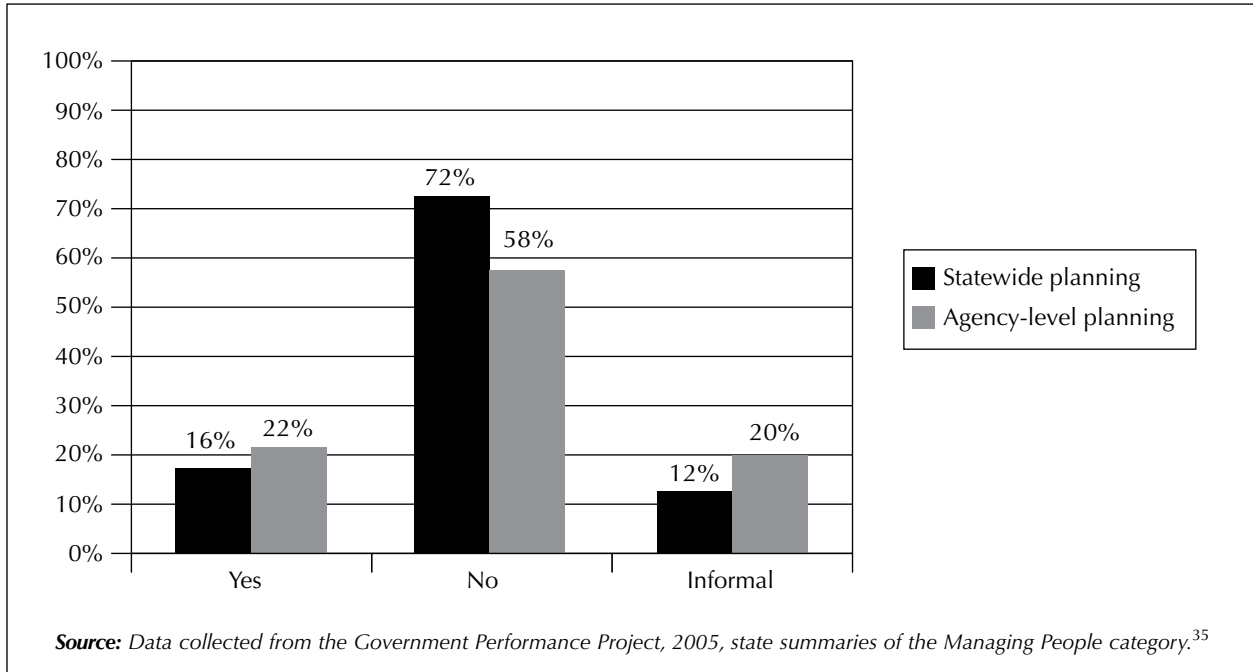
process of assessing the environment, reviewing the workforce implications of changes in strategic direction, identifying future workforce needs, identifying gaps, and re-evaluating the utility of workforce strategies. A recent example that underscores the importance of regular re-evaluation of the environment and the utility of current strategies was the dot-com stock-market downturn in 2000. At the height of the bull market, many people were eagerly anticipating early retirement as the value of their retirement portfolios skyrocketed. However, the dramatic stock-market downturn quickly put a halt to the early retirement plans of many who were relying on their 401ks to fund their retirements. Agencies that did not react to this trend may have continued a trend of aggressive recruitment to replace those workers when they really needed to switch to strategies for managing a multi-generational workforce. From the evaluation of the implementation and effectiveness of workforce planning strategies and from an updated environmental scan, the workforce planning team will be able to cancel or revise existing strategies as needed and develop new strategies as warranted.

Summary

Workforce planning is the critical missing component of performance improvement and strategic management initiatives that are now commonplace in many state and local governments. Even though workforce planning is important, the vast majority of states (72 percent) do not engage in systematic workforce planning. As shown in Figure 2, only 16 percent of states engage in regular workforce planning and only 22 percent have their agencies engage in the practice.

Just as important as understanding what workforce planning is, is understanding what it is not. Workforce planning is not predicting the future, inventorying all of an organization's positions, creating a static plan, documenting what it is, or just building the human resources function.[34]

The next two sections will discuss two contrasting examples of how workforce planning has been implemented in the public sector. The first, the U.S. Department of Transportation (DOT), represents an example of a highly structured, formalized workforce planning process that is well funded and staffed, with systems in place to support the initiative. The second

Figure 2: Workforce Planning in State Governments

Source: *Data collected from the Government Performance Project, 2005, state summaries of the Managing People category.*[35]

example, the Maryland State Highway Administration (SHA), is an example of a workforce planning system that developed as a natural outgrowth of an initiative to improve the management of the organization. SHA is not mandated to perform workforce planning, it does not have an integrated HR database system, and it has limited staff resources to devote to the process. Furthermore, Maryland state government is in the early stages of developing a workforce planning process. From these two examples will come recommendations for implementing workforce planning in public organizations of all sizes.

Workforce Planning at the U.S. Department of Transportation[36]

The U.S. Department of Transportation's experience implementing the federal human capital and workforce planning requirements is illustrative of the successes and challenges that occur when workforce planning is mandated and centrally supported. Under the President's Management Agenda (PMA), DOT is required to conduct workforce planning following guidelines developed by OPM (see the box "Goals for the President's Management Agenda—Human Capital Initiatives"). Even though DOT is following a mandate, using a framework provided by OPM, and receiving data support from OPM, the department has been able to customize its efforts to best address its strategic human capital challenges. DOT's success with workforce planning is evidenced by the fact that it was one of only five agencies to earn "green" status in the Human Capital Area of the PMA report card in June of 2004.[37] As of March 31, 2007, 10 of 26 departments had yet to achieve green status[38] (see the sidebar "Getting to Green" on page 26 for a discussion of the criteria for green status). This section presents the DOT workforce planning process using the Seven-Step Workforce Planning framework and discusses specific areas of success and implementation challenges.

Human Capital Management Mandated at the Federal Level

Under the Clinton administration (1993–2001), the National Performance Review (NPR) and GPRA initiatives represented the federal government's initial steps toward aligning human capital with mission. NPR focused on making government more efficient and results oriented. While primarily focused on programmatic performance, NPR also addressed administrative programs. The focus of HR was expected to shift from HR compliance to results.[39]

The more routine HR activities such as recruitment, hiring, and retention efforts were delegated to line managers, thus freeing HR to spend more time on strategic agency-wide issues. Under GPRA, performance management was expanded to employ strategic planning and performance measurement to improve the effectiveness and accountability of government. All programs were expected to demonstrate their measurable value, and administrative functions were expected to demonstrate how they supported the achievement of the agency mission.[40]

These initiatives were partially successful in making HR personnel strategic partners in agency management. This was demonstrated in a 1999 OPM study that found HR representatives increasingly included in the strategic planning processes of their agencies. Unfortunately, the study also found that much of their efforts were still focused on improving internal HR office functions.[41]

In 2001, Comptroller General David Walker designated human capital management as a high-risk area for the federal government and included it on GAO's high-risk list.[42] President Bush included human capital as the first of five government-wide management priorities in his PMA.

Through his management agenda, President Bush mandated strategic human capital management. Congress reinforced the importance of human capital in the federal government when it passed the Chief Human Capital Officers Act of 2002. The act established the position of the Chief Human Capital Officer (CHCO) for each executive branch agency; created the Chief Human Capital Officers Council, which includes the director of OPM, the deputy director of OMB, and all CHCOs; required

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Goals for the President's Management Agenda—Human Capital Initiatives

Near-Term Results

- "Human capital strategies will be linked to organizational mission, vision, core values, goals, and objectives.

- Agencies will use **strategic workforce planning** [43] and flexible tools to recruit, train, reward, and retain a high quality workforce.

- Agencies will determine their 'core competencies' and decide whether to build these competencies internally, or contract for services from the private sector.

- A statutory framework will be in place to attract and retain the right people, with the right skills, in the right job." [44]

Expected Long-Term Results

- "Citizens will recognize improved service and performance, and customer satisfaction will increase.

- Agencies will develop, sustain, and effectively deploy a skilled, knowledgeable diverse, high quality workforce needed to meet the current and emerging needs of government and its citizens.

- The workforce will adapt quickly in size, composition, and competencies to accommodate changes in mission, technology, and labor markets.

- Government employee satisfaction will increase.

- High performance will become a way of life that defines the culture of the federal service." [45]

Source: *President's Management Agenda, FY 2002, p. 14.*

OPM to assess the management of human capital in the federal government; and provided for various human capital management reforms.[46] As a result of its new assessment requirement, OPM created the Human Capital Assessment and Accountability Framework (HCAAF), which brings together the five human capital systems of strategic alignment, leadership and knowledge management, results-oriented performance culture, talent management, and accountability. The five systems are summarized in Appendix I.[47]

OPM's workforce planning model, presented in Appendix II, is very similar to the Seven-Step Model of Workforce Planning. The OPM model is cyclical and includes five steps. The first step calls for the agency to establish the strategic direction, which is the same as step 1 in the Seven-Step Model. The second step in the OPM model requires an analysis of workforce supply and demand, and the projection of gaps. This step encompasses steps 3 (model current workforce), 4 (assess future needs and project future supply), and part of 5 (identify gaps) in the Seven-Step Model. Step 3 in the OPM model focuses on developing the action plan for closing gaps, which is the same as the last part of step 5

(develop gap-closing strategies) in the Seven-Step Model. OPM's step 4 focuses on implementing the action plan, which is the same as step 6 (implement gap-closing strategies) in the Seven-Step Model. The final step in the OPM model calls for the agency to monitor, evaluate, and revise the action plan, which is the same as step 7 in the Seven-Step Model.

The Department of Transportation and the Seven-Step Model

The DOT comprises 12 entities: Office of the Secretary of Transportation (OST); the Federal Aviation Administration (FAA); the Federal Highway Administration (FHWA); the Federal Motor Carrier Safety Administration (FMCSA); the Federal Railroad Administration (FRA); the Federal Transit Administration (FTA); the Maritime Administration (MARAD); the National Highway Traffic Safety Administration (NHTSA); the Pipeline and Hazardous Materials Safety Administration (PHMSA); Research and Innovation Technology Administration (RITA); the Saint Lawrence Seaway Development Corporation (SLSDC); and the Surface Transportation Board (STB). The department has 52,684 employees,[48] the vast majority (43,983) of whom work for the FAA.[49]

Getting to Green

To earn green status for the strategic human capital component of the PMA scorecard, an agency must do *all* of the following.

- **Develop a Human Capital Plan Linked to the Agency Strategic Plan**
  Agencies must implement a comprehensive human capital plan that is fully integrated with the agency's strategic plan and annual performance goals. The agency must use performance data to revise the human capital plan as needed to meet strategic goals.

- **Conduct Organizational Analysis**
  The agency must analyze its organizational structure from the cost and efficiency perspectives and be in the process of implementing solutions to reduce costs and/or improve efficiencies as warranted using tools such as restructuring, staff reallocation, competitive sourcing, and e-government. The agency must also have a process in place to identify and address changes in business needs.

- **Implement Succession Planning Strategies**
  The agency must have succession strategies and leadership development programs in place that result in a leadership talent pool which meets targets for closing identified leadership gaps.

- **Implement Outcomes-Based Performance Management and Reward System**
  The agency must employ an outcomes-based performance appraisal system for all managers, SES [Senior Executive Service] positions, and more than 60 percent of the workforce. The system must have position-appropriate accountability and must have consequences based upon performance. In addition, the agency must have at least one "beta" site that demonstrates that performance expectations are communicated effectively to employees, the employee rating systems demonstrate effective planning and monitoring by supervisors, and the site is prepared to move to performance-based pay.

- **Reduce Under Representation**
  The agency must reduce under representation, particularly in mission-critical occupations. In addition, the agency must establish a plan to sustain diversity.

- **Reduce Competency Gaps**
  The agency must close competency gaps in mission-critical occupations and leadership positions.

- **Achieve Timely Hiring**
  The agency must meet the 45-day time to hire standard, 45-day notification of hiring decision standard, and other hiring process improvement targets as set by the CHCO Council.

- **Achieve Timely SES Hiring**
  The agency must set and meet aggressive targets toward obtaining the 30-day hiring standard for SES positions.

- **Conduct Regular Accountability Reviews**
  The agency must conduct regular accountability reviews with OPM and act upon its findings. It must also submit annual reports to the agency leadership and OPM.

Source: Standards for Success: Strategic Management of Human Capital. http://www.whitehouse.gov/results/agenda/ standardsforsuccess7-24-2006.pdf, accessed 11/24/06.

The next largest administration in terms of number of employees is the FHWA with 2,874 employees. At DOT, workforce planning is addressed at the departmental level as well as at the operating administration level. [50]

The PMA workforce planning requirements as defined in the HCAAF Practitioner's Guide provide the framework for DOT's workforce plan. Because workforce planning is one component of the strategic human capital efforts at DOT and other federal agencies, workforce planning is a more narrowly defined activity in the federal government than it is in most state and local governments.

Using the Seven-Step Model of Workforce Planning as an analytic framework, this section discusses how DOT was able to achieve early success in workforce planning.

Step 1: Definition of DOT's Strategic Direction

Strategic direction is provided through DOT's five-year strategic plan and five-year human capital plan. The human capital plan is updated annually. The update includes current workforce analyses, a discussion of progress on specific human capital initiatives, and initiatives that will be targeted in the next year. In the DOT process, the strategic direction is established outside of the workforce planning process.

Step 2: Scan of DOT's Internal and External Environments

Environmental scanning is not a separate and specific step in the DOT workforce planning model; rather, it is incorporated into the workforce planning process during the documentation of the current workforce, the identification of the future workforce supply and demand, and the development of gap-closing strategies.

Internal analysis is conducted as part of the documentation of the current workforce supply. DOT tracks external workforce trends through a variety of mechanisms including membership in the Corporate Leadership Council.[51]

Step 3: Model of the Current Workforce

Following the HCAAF framework, DOT performs an annual full-scope workforce analysis and provides automated support for targeted analysis.[52] The workforce analysis is conducted using the Civilian Personnel Data File (CPDF) maintained by OPM. This data set is also used in conjunction with OPM's Enterprise Human Resources' (eHR) Workforce Analysis Support System (WASS) and the Civilian Forecasting System (CIVFORS) to forecast DOT workforce trends.[53]

Step 4: Assessment of Future Workforce Needs and Projection of Future Workforce Supply

The future workforce supply is computed on a quarterly basis using CPDF data and the CIVFORS system. Projections are also computed for all mission-critical occupations. Mission-critical occupations are identified at the department and administration levels. The workforce projection includes the following analyses: turnover, experience level by administration, average age of incumbents in mission-critical positions, racial and gender distribution by grade, and new hires by age.**[54]**

DOT's forecasting models consider historical data, the most recent forecast, and interviews with key department officials. The PHMSA and the RITA are newly created; therefore, historical data are not available. In response, some DOT administrations have developed their own forecasts using alternate scenarios.

In projecting workforce needs, DOT and its operating administrations have focused their efforts on three government-wide mission-critical occupations (leaders, IT professionals, and human capital professionals)[55] and 10 department-wide mission-critical job families (planning, program management, financial management, engineer, legal, physical scientist, transportation specialist, transportation industry analyst, transportation safety, and information technology).[56] These positions comprise 78.4 percent of the DOT workforce.[57] For each of the mission-critical occupations, DOT has conducted an analysis of demographic representation, trends, and competency levels.

DOT is in the process of identifying the core competencies for all of its mission-critical occupations. Where core competencies have been defined, DOT derived them from a variety of sources, including mandates, government-wide initiatives, and internal analyses. For example, DOT created its Leadership Competency Model using the OPM Executive Core Qualifications as a starting point. The model contains 16 competencies. Each of the four leadership levels has specific competencies designated as critical. Using a web-based survey, DOT conducted its first leadership competency assessment in December of 2005. The results showed that significant competency gaps existed at all levels, with wider gaps at the executive level. DOT theorizes that this is because more competencies are required at the higher levels in the organization and mastery is required at those levels.[58]

IT competencies are assessed via self-assessment using a government-wide framework. The Federal IT Workforce Capability Planning and Analysis Tool (CPAT) provides additional data.[59] To assess human capital professionals' competencies, DOT, like all federal agencies, uses the CHCO Council's Human Capital Competencies Framework.[60] Employees complete a self-assessment, and supervisors review results for their employees and follow up with their assessment of the employees.

**Implementing and Evaluating Succession Planning at
the U.S. Department of Transportation**

The Department of Transportation requests that each Operating Administration (OA) within DOT submit answers throughout the year to the following questions as part of DOT's progress reports on succession planning:

• Who is accountable for implementing the strategies for recruitment, selection, development, and retention of leaders for your high-leverage positions? When and how will your strategies be implemented?

• How is your OA communicating these strategies to the affected groups, i.e., executives, managers/supervisors, employees in the leadership pipeline?

• Please describe your OA's efforts in maintaining senior-level commitment for your succession planning activities.

• Please describe how your OA will measure the effectiveness of your succession planning activities, including efforts to make continuous improvement.

DOT uses one method for assessing mission-critical occupation (MCO) competencies. However, the federal government mandates competency assessments which include a mix of self-assessment, supervisor assessment, and supervisor/employee assessments. While competencies are now being established for the DOT-wide MCOs, the experience thus far indicates that DOT will continue to use external standards, commissioned studies, and federal requirements to identify competencies.

Step 5: Identification of Gaps and Development of Gap-Closing Strategies

Since its first workforce plan in 2003, DOT has annually identified strategies for improving the management of its workforce. Recruitment strategies from 2005 call for increased entry-level hiring, outreach to women and minorities, and outreach to people with targeted disabilities. These strategies are designed to increase the diversification of the DOT workforce and ensure sufficient talent will be available to replace retirees. DOT's plan also calls for strategic management of mission-critical occupations to ensure that they are correctly defined, adequately staffed, and appropriately deployed. DOT has identified a number of crosscutting competencies that are targeted for improvement in all administrations. These competencies include soft skills such as communication and conflict management as well as more technical skills such as project management and performance management.

A department-wide IT gap analysis was completed in late 2005 in response to an OMB request of all federal agencies. The analysis included a self-assessment of IT competencies by 34 percent of the IT workforce.[61] The results were compared to the projected IT needs developed by a DOT team using the CPAT. The results of the analysis were used in the development of the department's workforce action plan to address gaps in four critical IT job activities.[62] The plan was converted into a detailed implementation calendar with assigned responsibilities and due dates.

DOT has a comprehensive talent management strategy that includes position management, recruitment, succession planning, knowledge management, development and training, retention, and competitive sourcing.[63] DOT manages positions by reviewing the job description and assignment for each vacancy before it is posted to ensure the position is used where needed. This talent management technique is critical for the administration to be able to realign the organization as needed to achieve mission success. Recruitment is generally done at the administration level and is targeted to help achieve strategic priorities. Some of the recruitment techniques include the use of a marketing firm to design and place ads on websites and the expansion of the applicant-tracking database—QuickHire.[64]

With a limited supply and stiff competition for qualified transportation professionals from public and private organizations, programs focused on retention of mission-critical employees are important to the long-term health of the department. A tool for assessing potential voluntary separations is the federal Human Capital Survey. DOT and all

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DOT Checklist for Success

In its report, *Department of Transportation Leadership Succession Planning Model,* the department sets forth the checklist below to enhance the department's succession planning. The following list provides examples of touchstones for evaluating an organization's succession plan.

INSURE STRATEGIC ALIGNMENT—the organization has a consistent method to track or insure that:

- Senior executives provide clear and visible support for succession planning, including, for example, utilizing succession plans to seek candidates for key positions and tracking "talent pipeline development" as a metric of organizational success

- Continual assessment of leadership competencies guides recruitment and selection decisions, targets effective learning strategies, and promotes better program performance against strategic priorities through more effective leadership

IDENTIFY KEY POSITIONS—the organization has a consistent method to track or insure that:

- The highest leverage positions are clearly identified

- The key competencies/experiences required for key positions are clearly communicated

- Employees can see the career path to key positions in *a leadership pipeline* at multiple levels of the organization

IDENTIFY KEY TALENT—the organization has a consistent method to track or insure that:

- Employees in the leadership pipeline are assessed against mission critical competencies

- Employees in the leadership pipeline have, and are acting on, plans to close any competency gaps

- Leaders may enter the pipeline at any level if they have acquired qualifying competencies

DEPLOY KEY TALENT—the organization has a consistent method to track or insure that:

- Leadership talent comes from a planned blend of internal and external sources

- Leadership competencies are the decisive factor in selecting new supervisors, managers and executives

- Development includes experiential learning (e.g., rotations, targeted reassignments, action learning, coaching and mentoring) in addition to classroom and online training

- Selection processes are inclusive and offer opportunity to candidates from diverse backgrounds

- The organization has assessed its vulnerability to incumbent loss in the highest leverage positions, and acted to minimize loss

ASSESS EFFECTIVENESS—the organization has a consistent method to track or insure that:

- Development programs increase employees' ability to perform in their current positions

- Development programs produce qualified candidates for key positions and "one-deep" leadership positions

- Development and selection processes produce leaders who can perform well in their new positions

- Current and potential leaders are motivated to remain and grow in their careers within DOT

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other federal agencies track "intent to stay" among current employees as a leading indicator of possible retention problems.

The department's succession planning model emphasizes the leadership pipeline in which the department develops leaders at every level, and each leader is responsible for identifying and preparing possible successors.[65] Internal candidates can enter the pipeline at any level as long as they are qualified. The model emphasizes level-appropriate development and seeks to ensure that as leaders advance in the hierarchy, their leadership skills and competencies also advance.

Knowledge management is a part of the workforce planning system. DOT has a working group to address knowledge management issues. One point of success is FHWA's Chief Knowledge Officer, who oversees the knowledge management initiatives in the administration. In support of training and development, DOT has implemented the Electronic Learning Management System (eLMS), a software system that also serves as the department's Competency Management System. Through the system, employees can take web-based courses and track their professional development activities. The other strategic investment DOT made was in the development of executive and leadership groups. This focus was assigned to the administrations as well.[66]

Several administrations within DOT used their competitive-sourcing flexibilities to meet strategic human capital priorities. For example, FHWA used competitive sourcing to fill vacancies for needed competencies.[67] The FAA used the A-76 process to reduce operating costs and streamline operations.[68] The FAA also used competitive sourcing to achieve a $2.2 billion estimated cost savings on the operation of the Automated Flight Service Station program.[69]

Step 6: Implementation of Gap-Closing Strategies

In 2005, DOT created a new position, manager of PMA/human capital programs, to ensure the department focuses on implementing and evaluating human capital strategies in addition to ensuring other requirements of the PMA are met.[70] Implementation is further coordinated through working teams that include senior managers from all of DOT's administrations.[71] Progress is monitored annually through the department's annual workforce planning report.

A primary strategy for building the DOT talent pool is a focus on entry-level hiring. To ensure success, DOT is focusing on differentiating its message to various segments of the labor pool to enhance its appeal as an employer of choice. DOT has nine programs designed to draw students to the organization. DOT has also authorized the use of incentives such as student loan repayment to attract and retain desirable employees.[72] As a result of its efforts, DOT has increased entry-level hiring.

DOT has made increasing representation by females, minorities, and persons with targeted disabilities key

objectives. In each of these areas, DOT has emphasized reaching out to the targeted communities through a variety of methods, building the pipeline of qualified applicants, and actively recruiting targeted groups. With the exception of increasing the diversity of DOT's applicant pool and increasing the percentage of Hispanics hired, the strategies have not been particularly effective.

Succession planning is also a significant goal for DOT. So much so that during FY 2004, DOT implemented a succession planning model that included mission-critical skill sets in executive-position descriptions as well as subcommittees to monitor succession planning efforts.[73]

Step 7: Evaluation and Revision of Strategies

DOT performs extensive assessment of the implementation and impact of its workforce planning strategies. Like all executive agencies, DOT is assessed quarterly by OMB on its progress toward achieving the goals of the PMA including human capital goals. In addition, the department monitors its human capital readiness and progress toward its seven major human capital goals and related milestones regularly through its annual workforce planning report.

Workforce Planning Successes

The 2006 update to DOT's workforce plan documents a number of workforce planning successes including increased entry-level hiring,[74] increased hiring of Hispanics,[75] and progress in succession planning.[76] The department is addressing entry-level hiring, a high priority for DOT, through a combination of traditional and innovative programs with an emphasis on targeting for results. For example, the Transportation Career Residency Program is being piloted as a strategy for bringing new hires into mission-critical occupations and providing them with training in areas where skill gaps have been identified. Students are being targeted through a variety of traditional as well as innovative programs including student loan repayments, temporary employment, and internships.

DOT seeks to improve the diversity of its workforce through increased hiring of women and minorities. It implemented a number of targeted outreach programs and administered the Air Traffic Selection and Training exam to increase the number of women and minorities in entry-level air traffic

controller positions. The diversity of its applicant pool increased; however, representation among new hires increased in proportion to the applicant pool only among Hispanics.

DOT's succession planning efforts focus on strategic leadership. The competency analysis for leadership positions has been completed, along with an assessment of current leader competencies. Potential sources have been identified to meet succession planning targets. The model was so successful that GAO cited it as a best practice.

In 2005, DOT improved its ability to assess employee performance by moving all employees' performance plans to multi-level systems that could "make distinctions among levels of performance."[77]

Success Factors

DOT has achieved success in its workforce planning efforts as evidenced by its "green" status on the PMA Human Capital requirement. Several factors led to DOT's success.

The DOT workforce planning mandate is a success factor for the department. OPM supported implementation of the mandate with guidelines, access to data, and centralized data collection for the human capital survey. Because human capital was on the President's Management Agenda, it became a high priority for agency leaders. Congress' reinforcement of the mandate through the Chief Human Capital Officers Act further enhanced the support of agency leaders.

DOT was required to have a designated Chief Human Capital Officer who was required to oversee development and implementation of the human capital plan. An elaborate committee structure ensured broad participation in the planning and implementation process. Access to accurate and reliable workforce data made it easier for DOT to conduct its current state assessment and project future needs.

Human capital tools, guidelines, and competency clusters developed by OPM and other federal sector workgroups were shared freely among the federal agencies. This lessened the learning curve for those developing and assessing competencies and skill sets, conducting gap analyses, and making recommendations.

While DOT developed an organization-wide human capital plan, the process offered flexibility for the individual administrations to identify their own human capital gaps and implement their own strategies. Providing flexibility in a centralized model allows for each administration to effectively address its own issues.

Challenges

Even though DOT, like all federal departments and agencies, is mandated to perform workforce planning, has support from OPM, and has staff dedicated to the design and implementation of the workforce planning program at the departmental and administration levels, the organization still faces considerable challenges. These findings are based upon review of publicly available documents.

Even at DOT, where workforce planning is staffed and supported, there is not enough time or resources to address all of the identifying staffing gaps.

DOT has been successful in identifying competencies for leaders, human capital positions, and IT positions. However, additional work remains to be done to further define competencies and assess the strength of the workforce. DOT will be focusing its efforts on mission-critical positions.

DOT has identified the need to improve crosscutting skills in several key competencies such as communication, conflict management, financial management, and contract management. The use of planning councils within the administrations is the primary tool for maintaining a focus on these skills in recruitment, training, and staff placement.[78] Another tool has been the creation of training classes with employees from across DOT administrations.

As with the rest of the federal government, the pool of available talent is shrinking, and DOT competes with other federal agencies for employees with technical skills and an interest in aeronautics and safety engineering.[79]

DOT has been successful in generating a more diverse applicant pool that better represents the population. However, achieving diversity in the department remains a challenge since DOT has been unable to convert the increases in minority applicants to an increase in monitory employees

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Lessons Learned

Lesson 1: Sharing workforce planning resources, tools, and techniques among various agencies speeds the implementation of workforce planning.

Lesson 2: Time and budget constraints can be significant barriers to implementation.

Lesson 3: Forecasts are useful in projecting likely scenarios.

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at a satisfactory rate. The only bright spot has been an increase in the number of Hispanics hired in proportion to their representation in the applicant pool.[80]

DOT set and met a target of 3 percent of new hires to be people with targeted disabilities.[81] Recruiting people with disabilities remains a challenge.

Lessons Learned

From DOT's workforce planning experiences several lessons can be learned.

Lesson 1: Sharing workforce planning resources, tools, and techniques among various agencies speeds the implementation of workforce planning.

For example, the workforce data sets and tools developed by OPM were critical to DOT's workforce analysis. The leadership competencies developed by the CHCO Council were used to develop DOT's leadership competencies. The IT competency framework developed by OPM was modified for DOT's use. DOT borrowed liberally from other federal initiatives, tools, and agencies.

Lesson 2: Time and budget constraints can be significant barriers to implementation.[82]

To overcome these barriers, DOT has identified the need to be strategic about how initiatives are implemented. For example, it has identified the significant costs associated with early-outs ($25,000 plus accumulated leave cash-out). Therefore, the department recommends that the administrations be strategic about which positions are offered early-outs; convert high-grade positions to lower-grade positions to free up resources; and complete early-outs in the first quarter of the year.

Lesson 3: Forecasts are useful in projecting likely scenarios.

Forecasts should take into consideration possible future scenarios: optimistic, pessimistic, and maintenance of the status quo. By examining alternate scenarios, the department will be better prepared for the future.

Summary

At DOT, the supply and demand assessment and resulting gap identification are accomplished through a variety of methods, including mandated federal tools (CHCO Council human capital competencies), voluntary tools (IT government-wide competencies), modified tools (OPM Executive Core Qualifications), and in-house tools (DOT Competency Assessment and Management Tool).[83] DOT has been able to focus its gap-closing activities on mission-critical occupations. DOT has also been able to develop and implement strategic initiatives to correct significant process weaknesses and address strategic workforce issues such as workforce composition. The central support and local flexibility appear to allow DOT to remain focused and strategic without being overburdened by requirements.

While DOT has achieved green status for its human capital efforts,[84] federal agencies overall still face several challenges with regard to strategic human capital management. Specifically, leadership focus is needed to complete multiyear transformations.[85] Additionally, federal agencies need effective workforce plans focused on achieving results through strategic human capital planning; acquiring, developing, and retaining talent; and linking pay and rewards to performance and organizational results.[86]

Workforce Planning at the Maryland State Highway Administration

Unlike DOT, the Maryland State Highway Administration (SHA) is not required to engage in workforce planning. The agency undertook the initiative as one component of a broader initiative to improve the management of the organization. This section discusses the environment surrounding SHA's workforce efforts and the evolution and implementation of workforce planning at SHA.
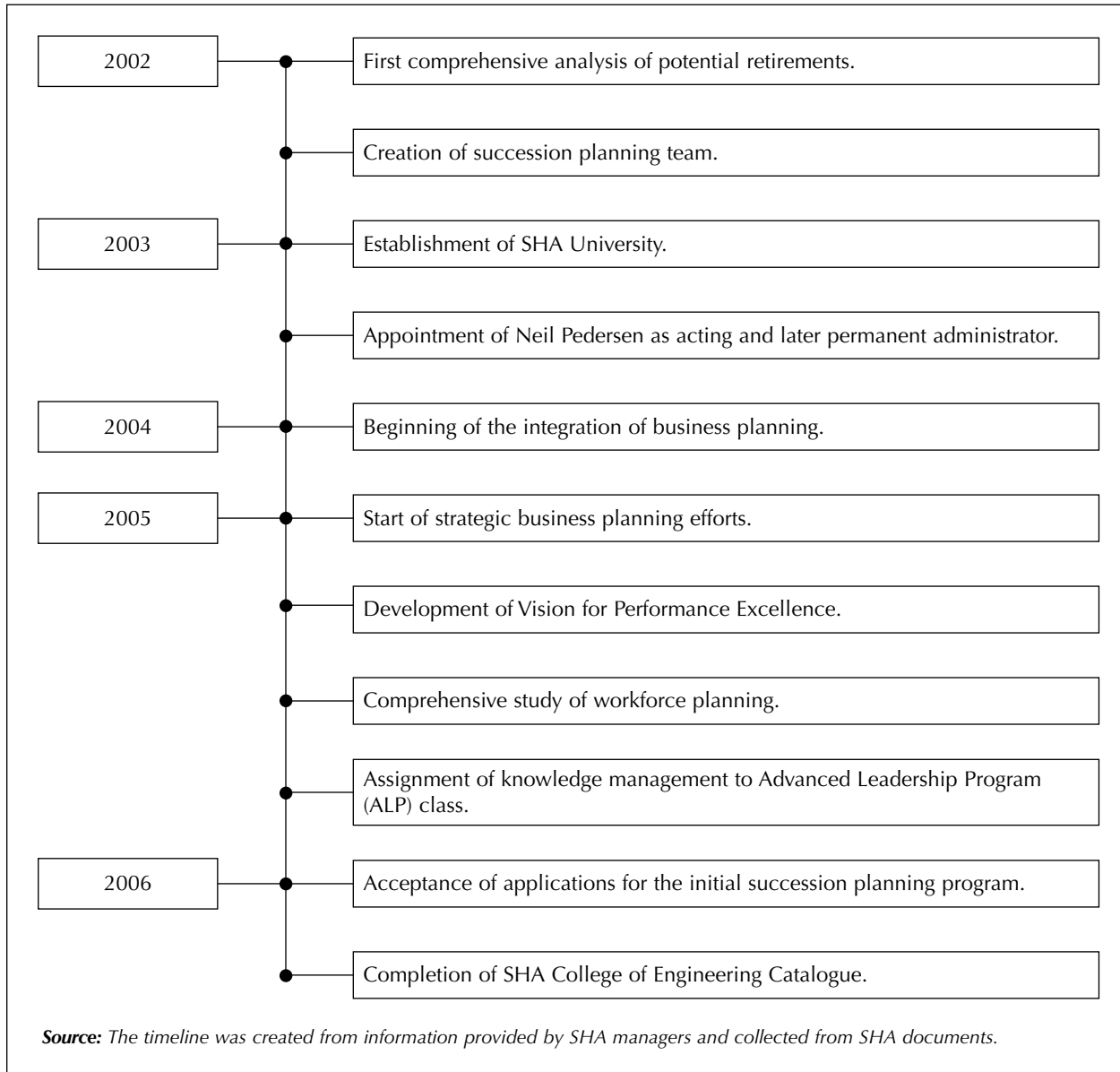
SHA's Workforce Planning Environment

SHA's workforce planning challenges are significant for several reasons. First, SHA has been hard hit by the state's downsizing trend. Between 1985 and 2005, SHA's workforce decreased by 19 percent. Second, SHA is expected to be one of the hardest hit and earliest hit agencies in Maryland in terms of staff loss due to retirements. Third, given the highly technical and specialized nature of many SHA functions and jobs and the possible loss of 50 percent of the workforce in the next 10 years, there is a significant possibility that much of the accumulated knowledge of the administration will be lost with the retirees. Fourth, the administration faces stiff competition for employees with advanced skills in engineering, finance, information technology, accounting, and procurement. Fifth, non-competitive compensation packages often make state employment less attractive to potential employees. Sixth, the shift from direct provision of highway construction, maintenance, and emergency operations to an increase in the use of outsourcing to provide traditional services means that SHA personnel in the future will need different and possibly more complex skill sets to procure and manage contractor services.

SHA is well ahead of the rest of the state of Maryland and most state departments of transportation across the country in terms of workforce planning. As of November 2005, only 10 percent of state transportation departments reported having a workforce plan in place.[87] However, more seem to recognize the impending problem. Twenty percent of state departments of transportation are in the process of developing or updating their workforce plans. Prior to beginning the current workforce planning initiative, SHA had not undertaken an agency-wide, systemic workforce planning effort. This is not to say that workforce planning was ignored in the agency. In 2002 one office, the Office of Materials and Technology, undertook a comprehensive and strategic workforce planning, office reorganization effort in response to a 44 percent decrease in staff over the prior 10-year period. The resulting plan reduced the number of operating units from 22 to 13, eliminated the need for regional labs, and organized the office around technical divisions instead of regions, divisions, and technical teams.[88]

Workforce Planning in Maryland

Maryland does not have a comprehensive workforce planning system, nor are state agencies required to engage in workforce planning. A very modest workforce planning effort was initiated through the FY 2006 budget submission process, where agencies were asked to submit a review of workforce needs.[89] This is not to say that Maryland thinks workforce planning is unimportant. In fact, Maryland's Department of Budget and Management (DBM) formed a multi-agency taskforce in August of 2003 to develop workforce planning guidelines for state agencies.[90] Prior to November 2005, when DBM was required to submit a workforce planning progress report to

Figure 3: Maryland State Highway Administration Workforce Planning Timeline

Year	Event
2002	First comprehensive analysis of potential retirements.
	Creation of succession planning team.
2003	Establishment of SHA University.
	Appointment of Neil Pedersen as acting and later permanent administrator.
2004	Beginning of the integration of business planning.
2005	Start of strategic business planning efforts.
	Development of Vision for Performance Excellence.
	Comprehensive study of workforce planning.
	Assignment of knowledge management to Advanced Leadership Program (ALP) class.
2006	Acceptance of applications for the initial succession planning program.
	Completion of SHA College of Engineering Catalogue.

Source: The timeline was created from information provided by SHA managers and collected from SHA documents.

the Maryland General Assembly, the issue had gained little traction in Maryland.

A 2005 performance audit of Maryland's workforce planning efforts by the Maryland Office of Legislative Audit (OLA) found that 12 percent of the state's workforce was eligible to retire immediately (as of June 30, 2004); 28 percent will be eligible by June 30, 2009; and 45 percent will be eligible by June 30, 2014.[91] The audit also found that Maryland was doing little centrally or at the agency level to address workforce planning issues. The audit report recommended that Maryland undertake a formal workforce planning process.[92] Following up on the

audit, the Maryland General Assembly requested DBM to submit a progress report on the status, projected development, and implementation of Maryland's workforce planning efforts.

In its report, DBM indicated that Maryland's workforce planning efforts to date have been ad hoc, informal, and in response to specific needs identified by agencies. While informal, the department's workforce planning efforts did focus on addressing some of the more urgent issues facing many state agencies.[93] Specifically, DBM focused its efforts on updating selected job classifications and adjusting salaries accordingly; authorizing signing bonuses for

classifications with recruitment and retention problems; streamlining hiring practices for hard-to-fill positions; and implementing outreach and employment programs for targeted recruitments. DBM intends to focus its workforce planning efforts on "potential retirements and recruitment and retention."[94] The state of Maryland has officially adopted the OPM model for its workforce planning efforts.[95]

The Evolution of Workforce Planning at SHA

SHA has a long history of informal workforce planning. In the early 1990s, under the leadership of Administrator Hal Kassoff, SHA engaged in a series of Year 2000 planning exercises in which each office was required to project how they would manage with a 10 percent and 20 percent staff cut. While this was not a formal workforce planning effort, this exercise created an awareness among SHA managers of the continual need to assess contingency options for staffing.[96]

The exercise proved valuable in 1996 when Maryland offered early retirement buyouts for eligible state employees. Under this program, SHA lost 10 percent of its workforce. In addition to this unexpected wave of retirements, SHA experienced several periods where its capital program budget increased dramatically, but without a concomitant increase in staffing. Under these circumstances, SHA had to explore alternative staffing strategies, including outsourcing and on-site consultancies. Through these exercises, SHA's top management experienced workforce planning and strategic thinking about staffing, but without the benefit of formal expert advice or a model to follow.

More formal workforce planning at SHA began somewhat tentatively in 2002 when Deputy Director for Administration Richard Smith requested an analysis be conducted of the possible impact of retirements on the administration. The results of that analysis were startling. A significant number of SHA employees were eligible to retire in the next five years. A later workforce planning study found that of 160 leadership positions in the succession planning program, 89 incumbents could retire at will, 12 positions were vacant, and the remainder could retire within five years.[97] The 2004 OLA audit showed that 35 percent of the SHA workforce was eligible to retire within five years.[98] It became immediately clear that a mass retirement wave could seriously jeopardize the administration's ability to fulfill its mission. In response, SHA developed a taskforce composed of 25 to 30 people to address succession planning issues at the agency.

In a parallel, but mostly unrelated, effort, the Office of Administration sought to improve the efficiency of its mostly decentralized training programs by reorganizing the offerings under the auspices of a new SHA University. The university structures the administration's training offerings under three colleges: the College of Engineering, the College of Operations, and the College of Administration. Initially, the program was focused on identifying curricula for specific job classifications and providing a comprehensive catalogue of course offerings. The program has since evolved into a key partner in the organization's workforce planning efforts, with a primary emphasis on its role as a partner in implementing organizational development as a means to meet strategic staffing needs.

In 2003, Neil Pedersen, a longtime SHA senior manager and deputy administrator, was appointed administrator. In his new capacity, he spent a significant amount of time studying the Malcolm Baldrige Criteria and assessing its utility to SHA.[99]

Administrator Pedersen decided to use the Baldrige principles as the basis for his management of SHA because they represented the best in contemporary management practice. Mindful of the negative effects of initiative overload, Pedersen decided instead of creating yet one more initiative, he would use the Baldrige principles to give structure and vision to the nascent Performance Excellence initiative. SHA used the Baldrige criteria to engage in an office-by-office and organization-wide self-study process. Pedersen believed that through the Baldrige self-study process, senior managers and their teams would engage in a "self-discovery process" that would enable them to identify changes that needed to be made in business processes and ways of doing business.[100]

However, self-discovery was not enough. Pedersen realized that SHA had numerous initiatives under way with regard to workforce planning, leadership, business planning, and customer satisfaction, but that it lacked a unifying strategy and vision. A presentation by SHA's Advanced Leadership Program led

Pedersen to the understanding that he, as the leader of SHA, must create a compelling vision of where he wanted the organization to go. This led to the creation of SHA's Vision for Performance Excellence in the fall of 2005. While the Vision for Performance Excellence was Pedersen's brainchild, the actual document detailing the vision and implementation plans was the product of months of work by SHA's leadership team and was vetted by SHA's Senior Management Team (SMT). This process helped SHA create buy-in throughout its management ranks.

Through the Vision for Performance Excellence, Pedersen sought to improve the overall management, decision making, and strategic action of the organization. The initiative has five components:

1. Visionary leadership

2. Business planning and performance measurement

3. Process improvement and management

4. Workforce planning and development

5. Customer communication, service, and satisfaction[101]

For each component, the administrator, aided by the leadership team, drafted a memo outlining the organization's vision for how SHA would achieve excellence in that component area. Included with each memo was an action plan defining how the initiative would be implemented. In 2005, SHA created the Performance Excellence Unit to support the functions associated with the implementation of Performance Excellence.

Vision for Workforce Planning

As defined in the workforce planning and development component of the Vision for Performance Excellence, SHA has an ambitious vision for workforce planning and development: "SHA delivers on its mission through effective business planning, strategic staffing, succession planning, knowledge management, and formal and informal learning opportunities that support the organization's pursuit of excellence."[102] Through this component, SHA committed itself to:

- Projecting and prioritizing future workforce needs in concert with business planning

- Recognizing strategic staffing as key to fulfilling its business objectives

- Attracting and retaining highly-qualified employees

- Equipping its employees with the skills and experience necessary to meet future workforce demands

- Retraining and reassigning employees to take on new duties when their current functions are no longer necessary to its business objectives

- Supplementing its workforce with capable partners through on-site staffing and project outsourcing

- Utilizing the right people, with the right skills, in the right positions in order to deliver on its business objectives[103]

At the same time that SHA's leadership team worked on the vision and implementation plan for workforce planning, the organization hired a consultant from a local university to conduct a workforce planning assessment.[104] The report, "Planning for the Future: A Workforce Needs Assessment for Maryland State Highway Administration," was completed in July 2006. It included an internal and external assessment of the trends impacting SHA's workforce and workforce needs. The internal analysis included an assessment of staff distribution, supplemental staffing patterns, and overtime utilization.

A comparative salary analysis was also conducted for several key positions. The report summarized the findings from in-depth, office-level workforce planning assessments led by each office's senior manager. It identified core knowledge sets to build or retain; areas were additional staffing is warranted; functions for which an evaluation of organizational structure is warranted; and opportunities for outsourcing functions. As such, the report provided the baseline data needed for the organization to move forward with designing and implementing workforce planning strategies.

SHA's Workforce Planning Model

SHA's Workforce Planning Action Plan presents five interrelated and mutually reinforcing components:

1. Business planning

2. Strategic staffing

Figure 4: SHA's Workforce Planning Model

Source: Created by the author to represent SHA's process.
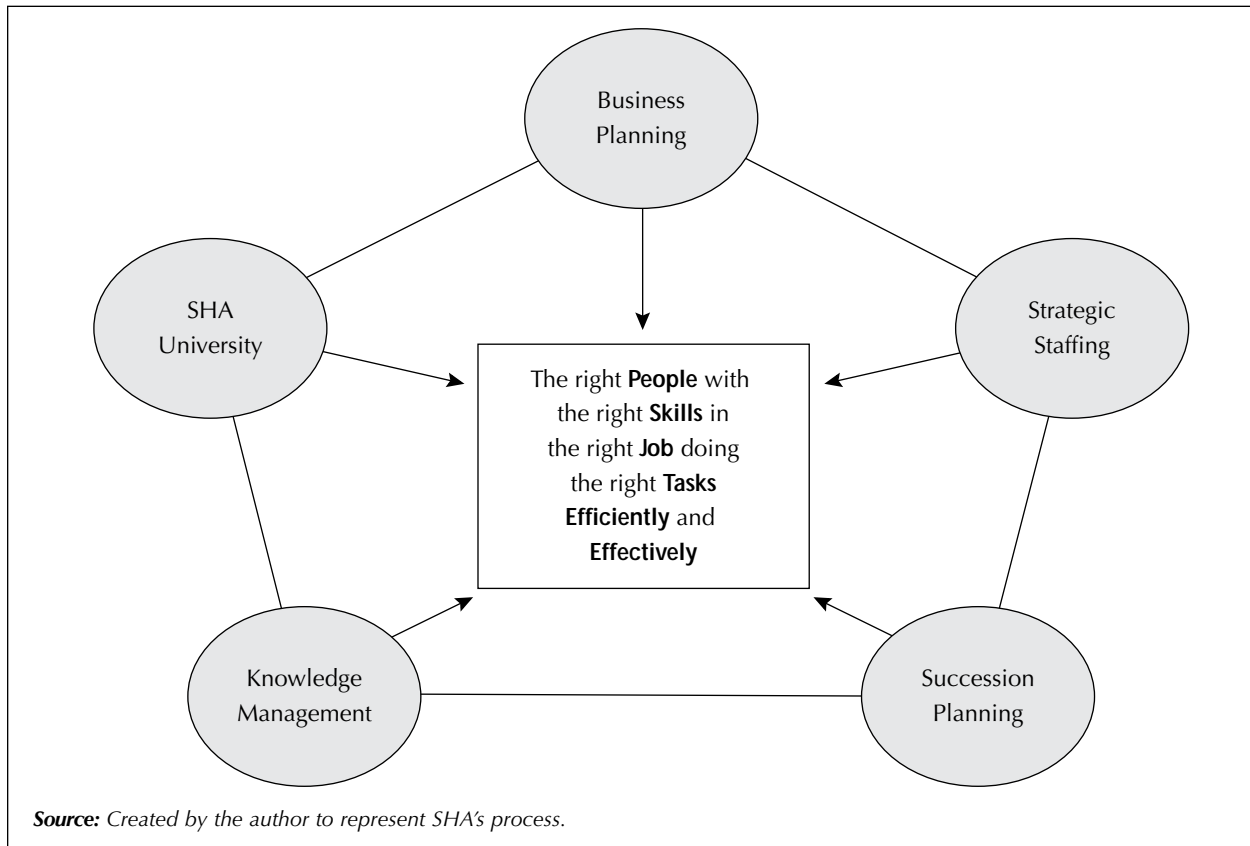
3. Succession planning

4. Knowledge management

5. The creation of the SHA University

The plan wove together activities that were already under way in the areas of business and succession planning and under way at SHA University with the leadership team's desire to focus on strategic and optimal staffing. The process of trying to articulate a vision and implementation plan that comported with the "science" of workforce planning led to the inclusion of knowledge management and an expansion of the administration's view of strategic staffing. The process for each component and the current implementation progress to date are summarized in the paragraphs that follow.

Business Planning[105]
Under the guidelines of the business planning process, each senior manager is required to participate in a strategic vision session with a 10-year time horizon. The insights from this session inform the development of each manager's strategic staffing

plan. Members from the SMT identify the strategic direction for SHA and develop a supporting business plan. The direction from these documents serves as the foundation for the workforce plan.

Using the Baldrige assessment process, each office identifies its key processes and opportunities for business process improvement. Annually, senior managers meet with the leadership team (administrator and deputy administrators) to discuss their business plan, workforce needs, and opportunities for collaboration. The Performance Excellence Unit documents the models used for calculating workforce needs. Finally, each office completes an organizational assessment to ensure it is organized and staffed appropriately to meet the objectives defined in its business plan.

SHA has been successful with implementing the business planning process. In addition to addressing the primary outcomes of its principal business units as required under Maryland's Managing For Results mandate, SHA's business planning process requires each office and district to develop a detailed, results-oriented, data-driven plan to address major strategic,

workforce planning, and organizational design issues, as well as to focus on improving the outcomes of key business processes. With the development of the Vision for Performance Excellence initiative, the SHA business plan became the foundation and starting point for the remainder of SHA's workforce planning model. As part of the business plan, each office is required to document any special workforce implications of strategies and action plans.

Strategic Staffing[106]
Under the strategic staffing process guidelines, each senior manager identifies who, by position type (SHA employee, contractor, consultant, temporary personnel, or intern), staffs each of his or her office's key business processes. Next, senior managers identify all functions that must be performed (by law, regulation, professional, or ethical standard) by SHA employees. For each "SHA only" function, the senior manager develops a list of the core competencies, skills, and credentials required for successful completion of the function in the mid and long term. Each office projects its future staffing needs in terms of types of employees, number of employees, and skill sets required to achieve the results set forth in the business plan. Finally, each office analyzes the gap between projected staffing and long-term staffing needs for critical business functions.

SHA has had limited success with implementing the strategic staffing guidelines. The original focus of SHA's recent workforce planning efforts was on optimizing staffing at the administration and office levels.[107] As the administration continued to work on developing and implementing its workforce planning model in line with the "science" of workforce planning, the leadership realized that strategic staffing was one small piece of the workforce planning puzzle.[108]

In the spring of 2005, senior managers completed the position inventory. The major functions were identified for each office and a table was created showing what percentage of time each position spent on each function. The primary purpose was to get a good picture of staffing patterns by function instead of the traditional office-level view. Future analyses of staffing by function will incorporate the Baldrige key processes and support processes developed by the offices during their Baldrige self-assessment study.

For SHA, strategic staffing has not turned out to be the exact science many would have preferred. Many functions performed by SHA employees and consultants are unique, making the calculation of optimal staffing on a formula basis impossible. For unique and specialized functions, "right-staffing" will continue to be more of an art than a science. Many of the operations and road maintenance functions (such as mowing, plowing, repairing potholes, and road paving) performed by SHA employees, consultants, and contractors are the type of high-volume tasks that lend themselves to traditional workload and staffing analysis. For these types of activities, SHA is moving ahead to develop workload analysis models to project required staffing levels.

However, SHA's leadership recognized that the *strategic* part of strategic staffing must focus on answering two questions. First, who (permanent employee, consultant, or contractor) is the best choice to perform a given task or provide a specific service? Second, what types of skills will be needed to perform mission-critical functions?

The answer to who is the best choice is determined by understanding how to best deploy SHA staff. In an era of downsizing, right-sizing, and outsourcing, government organizations must be strategic in determining which functions will be performed by agency staff and which will be performed by consultants, vendors, or partners. Excessive or poorly reasoned outsourcing can leave an organization short on critical skills and unable to monitor appropriately the work of consultants or vendors. Outsourcing plum, challenging technical assignments to consultants can demoralize gifted employees and create gaps in organizational knowledge.

The answer to what types of skills will be needed is critical to ensuring that an agency hires employees that provide value to the organization now and into the future. Assessing the likely impact of changes in technology, innovations in key processes, customer expectations, and industry trends on what will be expected of employees is critical for determining who to hire, where to recruit, and how to develop employees.

The example provided by the Office of Materials and Technology (see the sidebar "Strategic Staffing— One Office's Experience") shows how one office in

Strategic Staffing—One Office's Experience

SHA's Office of Materials and Technology (OMT) developed a strategic staffing model in 2002, well before SHA started "official" workforce planning efforts. In 2002, OMT found itself in the position of having lost 44 percent of its workforce, and much institutional knowledge, during the prior 13 years. The staff had decreased from approximately 500 employees in the early 1980s to 204 today.[109] Of the remaining staff, more than 31 percent were at least age 60 or had 30 years of service and another 15 percent were at least age 55 or had 25 years of service.[110] As a result, OMT was faced with a smaller workforce, almost half of whom were able to retire in the immediate future. This created the potential for organizational failure or the perfect opportunity for restructuring for success.

OMT chose to view the situation as the perfect time to restructure. Under the leadership of Peter Stephanos, the new director of OMT, the office undertook a comprehensive organizational analysis. The analysis resulted in a blueprint for change entitled "A Strategic Plan for the Future of the Office of Materials and Technology." The guiding principle of the planning effort was to determine how OMT could be most effective in fulfilling its mission given the new reality of a dramatically smaller staff that would not be restored to prior levels, a loss of organizational knowledge, and aging facilities spread across four locations throughout the state.

The planning process was thoughtful and thorough, and included the following elements:

- The solicitation of customer feedback on office performance and an analysis of customer needs

- A complete evaluation of business processes by staff within OMT

- An investigation of partnering opportunities with local universities

- Meetings with key industry stakeholders, who rely on the work of OMT, to discuss their expectations and needs

- Best practice analyses of other state agencies to identify how OMT could carry out similar functions

- An assessment of how other offices within SHA carried out their administrative functions

The result was a plan that reduced the overall staff size from 204 to 195; centralized functions into one location; closed the regional laboratory facilities; outsourced a significant portion of the laboratory work; reduced the number of operational units from 22 to 10; greatly reduced the administrative staff (40 percent decrease); and decreased the technical resources needed by 42 percent.

The resulting strategic plan dramatically altered how OMT does business. The aging facilities were closed and operations were consolidated into two new locations, resulting in a projected facilities savings of 25 percent of current operating costs and the opportunity to generate $5 million in revenue from the sale of the surplus facilities.[111] Costs associated with administration were decreased by $300,000 as a result of a resource-sharing plan in the new centralized facility. Operational efficiency is expected to improve through the more efficient use of resources and the elimination of duplicate equipment in multiple facilities.

However, one of the most important accomplishments is the dramatic change that will occur in the staffing patterns of the organization. Doing more with less means that each member of the workforce needs to be able to do more. OMT responded to this reality by creating a workforce that is more versatile, more professional, and more focused on key business processes. As shown in Figure 5, the proportion of technicians and administrative staff will decrease dramatically, while the proportion of engineers, consultants, and managers will grow significantly. The new staff composition positions OMT to create its future workforce now.

Figure 5: OMT Staff Distribution Changes
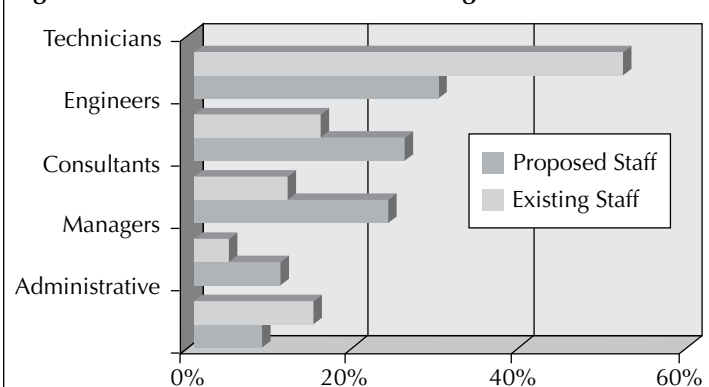
Source: Stephanos, OMT Reorganization Summary, Unpublished Report.

SHA approached the issue of developing a staffing plan to support its strategic plan. Other offices in SHA will be looking at their strategic staffing needs using the process outlined in the Vision for Performance Excellence. Specifically, each senior manager will be leading an analysis of key business processes for his or her office. As a result of the analysis, managers will identify which activities are most appropriately completed by SHA employees, which should be outsourced, and which can be eliminated or consolidated. Once managers are clear on the functions to be performed by SHA employees, they are charged with identifying, for the mid and long term, the credentials, skills, and competencies that will be required to fulfill the function. These will be compared to the expected skill mix. From this comparison, the gap between expected need and supply will be identified. The gap analysis will provide data to direct recruitment, training, succession planning, and partnering efforts. Such an analysis was conducted by the OMT in 2002.

Succession Planning[112]

Under SHA's succession planning process, senior managers identify critical leadership and technical positions that should be included in the SHA Succession Planning Program. For each position placed in the Succession Planning Program, the supervising senior manager identifies the core competencies, skill sets, experiences, and credentials required for candidates to be successful in the mid and long term. SHA ensures that employees will be prepared to fill critical leadership, professional, and technical positions through the provision of training, rotations, mentorships, and so on.

Succession planning at SHA is to be both formal and informal. The formal succession planning process as developed by the Succession Planning Executive Committee includes three steps. First, the SHA Succession Planning Worksheet is completed for each position or class of positions. The worksheet summarizes the responsibilities of the position; required technical skills and competencies; required knowledge sets; and required candidate qualifications, including work experience, educational credentials, licenses, or certifications. The worksheet also includes information about the likely or traditional candidate pool for the position.

Second, the program is advertised and applications are accepted. Applications must include supervisor and division chief approval as well as evidence of the applicant's satisfactory performance in his or her current position. Finally, the succession planning "class" is selected and their participation in the program begins.

SHA is beginning to implement its succession planning processes. As stated earlier, succession planning predated the formal workforce planning efforts at SHA. Unlike the federal DOT succession planning program, SHA's succession program includes high-level technical experts and leaders. To be included in the plan, a position must require special education, skills, expertise, or experience that were not easy to come by and were often learned on the job. Positions on a list of pending retirements were examined on a case-by-case basis to determine if they fit the criteria for inclusion. The SHA senior leadership team made the final determination about which positions were included in the formal succession planning list. The final succession planning priorities list included 30 positions that were either senior managers or division chiefs. The leadership team also identified two functional groups for inclusion in the succession planning program: roadway maintenance and roadway construction.

What Is Included in the SHA Succession Planning Program?

The SHA succession planning program does not guarantee promotion to the enrollees. Rather, participants are given the opportunity to participate in an in-depth skills assessment to determine their readiness for the position to which they aspire. Participants then review their level of preparedness during a coaching session with the manager of their division. During the coaching session, the employee and manager jointly create a prioritized professional development plan for the employee. Development and training opportunities are provided in-house as well as externally through universities, trade associations, and other vendors. Employees are tracked for a two-year period to determine what progress they have made developmentally and in terms of promotions.

SHA's Succession Planning Program for District Engineer for Maintenance[113]

- **Completion of the Succession Planning Worksheet:** This summarizes the responsibilities of the position; technical skills and competencies needed; knowledge sets needed; required candidate qualifications, including work experience, educational credentials, licenses, or certifications; and information on where the candidate pool should be recruited from.

- **Program Advertisement:** The program is advertised.

- **Application:** Candidates complete an interest form upon which they specify their geographic area of interest and target position. The employee's supervisor and division chief must sign the form. Required with the application are the employee's two most recent performance appraisals and an employment application.

- **Minimum Requirements:** Applicants must have earned "meets standards" or better performance on their two most recent performance appraisals and have not had a disciplinary suspension within the past 12 months.

- **Program Activities:** Employees and their supervisor complete an employee skills assessment. A coaching session is conducted by an Assistant District Engineer. The two assessments provide a foundation for the session. Together, the ADE and the employee develop a prioritized skill improvement plan. Resources are available both in-house and from external sources.

- **Results Tracking:** Participants' development activities and career movement will be tracked over two years.

- **Notes:** Succession Planning Program does not define the pool of applicants for the position, nor does it guarantee employee promotion. Those outside the program are still eligible to apply for vacancies.

- **Value Added:** Through the program, a candidate pool for a mission-critical occupation is developed and their skills are assessed. Candidates are provided a coaching session in which a series of developmental activities are identified based on the results of the skills assessment. This adds value to the Professional Development Plan (PDP). Finally, participants are given exposure to upper-level management in the organization.

The formal succession planning effort for roadway maintenance and roadway construction began in 2002 when a team of 25 to 30 people was created to work on the issue. Included in the team were representatives from across the organization and at various levels of management. A first larger group contained five subcommittees:

1. Position identification

2. Data integration

3. Survey and marketing

4. Corporate memory

5. Core competencies[114]

From 2002 through 2004, this larger group met quarterly. They focused on conducting research, benchmarking best practices, and defining how succession planning could work at SHA. The Minnesota DOT model became the framework for its succession planning efforts. However, the model was customized for SHA's culture.

By the end of 2004, a smaller group of eight people became the Succession Planning Executive Committee, which replaced the larger succession planning team. Lead responsibility for the succession planning program became vested in a staff person in the Office of Administration who continued to be advised by the Succession Planning Executive Committee.[115]

The preliminary position priorities for the maintenance succession planning program were those of assistant district engineer (ADE) and resident maintenance engineer (RME). However, further investigation revealed that pool of potential successors was at even higher risk for retirement—which led to a revision and expansion of the succession planning program to include RME and assistant resident maintenance engineer (ARME) positions.[116]

The manager of the succession planning program worked with an existing SHA group, the Statewide Maintenance Quality Council (SMQC), to design the RME and ARME succession planning programs. The SMQC includes those who have the most complete

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What Is SHA University?

A virtual university organized around SHA's three colleges, each representing one of SHA's key functional areas. The colleges are engineering, roadway maintenance, and administration. The university offers a course catalogue and curriculum guide for each college. The guide lists recommended courses for each job classification in the area. The university also provides a database for tracking employee progress toward achievement of their development plan.

Source: *Barnard interview.*

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view of education, skills, competencies, and experience required to be successful in the RME and ARME positions.

The succession planning effort for maintenance included two important departures from traditional thinking. First, SMQC focused strategically on identifying the educational background, skills, and experience needed in these positions instead of promoting people primarily by years on the job. Second, the succession planning efforts included a broader pool of potential applicants beyond the typical group of successors. The program's inaugural application process in October of 2006 netted 65 applications.[117] A second succession planning program for another mission-critical classification is currently under development.

Knowledge Management[118]
SHA's vision for knowledge management states that SHA will, through its business planning, strategic staffing, and succession planning activities, identify and catalogue the sets of knowledge that must be retained for the administration to be successful in achieving the results specified in the business plan. SHA will then develop and provide to its offices guidance and tools for determining the best method for documenting existing knowledge. Opportunities are provided for knowledge sets to be exchanged. These opportunities include job shadowing, mentoring, and communities of practice.

Knowledge management is thus far the weakest component of the SHA workforce planning model. SHA's ALP class of 2006 is developing the administration's strategic plan and related implementation plan for knowledge management. In addition, decentralized knowledge management projects are occurring in offices throughout the organization. Some offices are formalizing their documentation of processes and

procedures. The administration is undertaking an initiative to put all of its manuals, policies, and procedures on the administration's intranet. Communities of practice are being developed across the organization to facilitate knowledge sharing.

SHA University[119]
The Vision for Performance Excellence calls for the SHA University executive committee to develop curricula to provide employees with the opportunity to acquire the skills and competencies identified as critical through the business planning, strategic staffing, and succession planning components of the workforce planning program. In addition, the university will provide supervisors with training in career coaching so they can more effectively direct their employees' professional development activities and fully and appropriately utilize the resources of SHA University. Finally, supervisors will be required to provide career coaching to their employees on an annual basis as part of the development of the employees' professional development plan.

SHA University was originally conceived as a framework for documenting the professional development programs already being provided by various units within SHA and making the process more efficient. Once the workforce planning process got under way, SHA University quickly became a strategic link between the organization's professional development activities and workforce planning.

SHA University is not a bricks-and-mortar university, but rather a virtual university that organizes all of SHA's training and professional development activities under one umbrella and ties the training function to the strategic business needs as identified through "workforce planning" activities. The university is divided into two components: strategic leadership and delivery of the training and professional

development programs. The strategic leadership component guides the content of the training. Training delivery is primarily decentralized, with the offices and districts handling their own training functions. Training opportunities are provided by a wide variety of entities, including SHA subject-matter experts, outside training providers, colleges and universities, professional associations, and trade groups. A small amount of centralized training consisting mainly of the leadership development programs, including ALP and Leadership Education and Development (LEAD), is offered through SHA University.

An executive committee composed of the administrator, the three deputy administrators, and representatives from each of the functional areas of maintenance, operations, and administration oversees SHA University, which is organized around three colleges: Engineering, Operations, and Administration. The relevant deputy administrator heads each college. Ad hoc members—colleges and universities and other strategic partners, including trade groups and professional associations—supplement the executive committee.

The curriculum in each college is geared around the core competencies and skill sets required for each job classification. People do not "graduate" from the university, as its purpose is to meet the ongoing need for continual skill development. One of the core documents produced by the university is the course catalogue and curriculum guide. This guide documents the suggested courses for each job classification included in the college and describes the content of the course offerings. The content is developed with input from the executive committee for each college.

The College of Engineering Course Catalogue was released in January 2007. The catalogues for the College of Operations and the College of Administration are targeted for completion in 2007. Supervisors and employees will use the catalogues in the development of employees' annual professional development plans. The plans will be monitored at the office level.

As summarized by the coordinator for SHA University, "SHA University is really about putting organization, guidance, and structure around what already exists

and filling in the gaps as needed, setting development priorities, and identifying areas where new activities or courses are needed."[120]

State Highway Administration and the Seven-Step Model

Using the Seven-Step Workforce Planning Model as an analytical framework, this section assesses SHA's progress.

Step 1: Definition of SHA's Strategic Direction

As in the Seven-Step Model, strategic direction is the foundation for the workforce planning efforts. In the case of SHA, a comprehensive business planning process drives strategic planning through all levels of the organization. SHA's workforce planning efforts are designed to ensure that SHA has the right people with the right skills in the right job to meet its strategic objectives. At the SHA-wide and office levels, managers are expected to identify workforce planning issues and include proposed solutions as part of their plans. In situations where the solutions require organization-wide or systemic changes, senior managers are responsible for identifying the problems to the leadership team.

Step 2: Scan of SHA's Internal and External Environments

Despite not having staff assigned full-time to the workforce planning effort, SHA did a sound job of scanning the internal and external environments. SHA stays current with trends in highway administration and technology through involvement in the American Association of State Highway Transportation Officials (AASHTO), participation in relevant professional organizations by managers and technical experts, and ongoing research by managers and technical experts. In addition, SHA undertook a more formal assessment of the external environment as it relates to workforce planning.

First, SHA had Steve Lockwood, a nationally recognized expert in highway transportation, give a presentation to its senior managers on the future of the highway transportation system over the next 10 to 20 years. The presentation focused on changes in construction technology, materials, labor market, public expectations, and construction funding.

This presentation provided a foundation for the senior managers to identify and discuss trends that will impact how SHA will do business over the next 10 to 20 years.

Second, each office was asked to prepare a workforce planning briefing for the administrator and the Senior Leadership Team. To prepare for the briefing, the senior manager in each office led his or her staff in an internal and external environmental scanning exercise in which the office was expected to project possible changes in the type of work it will be required to do, how it will get done, and who will perform the work. The briefings provided an excellent opportunity for the Senior Leadership Team to identify common challenges across the organization, identify opportunities for immediate action, and develop longer-term strategies for addressing workforce planning challenges.

Step 3: Model of the Current Workforce

SHA, like many public sector organizations, lacked the comprehensive data sets needed to model the workforce. SHA was able to produce a complete list of employees, their job titles, and assigned locations. However, the financial, human resource, and training management data systems did not collect the types of data needed on individual employee skill sets or readiness for advancement. Basic workforce indicators were not available, and most of the workforce planning analysis had to be conducted using ad hoc reports and special data runs. The organization did not have a comprehensive list of on-site consultants, which made modeling the current workforce difficult. SHA had a very good handle on the projected number and distribution of retirements.

Step 4: Assessment of Future Workforce Needs and Projection of Future Workforce Supply

The administration is in the process of developing models to compute and project staffing needs. This will be one of the more challenging activities in the workforce planning initiative. SHA has identified competencies for some succession plan positions and is in the process of identifying them for all succession plan positions. The organization has done a thorough job of identifying leadership competencies, but has not yet done a thorough assessment of the prevalence of those competencies in the current and likely future leadership pool.

Step 5: Identification of Gaps and Development of Gap-Closing Strategies

For selected positions, SHA has projected the gap between supply and demand. This has mostly been done on an ad hoc basis. At the office level, senior managers and their planning teams have identified workforce gaps and, where possible, developed strategies that can be implemented at that level. However, the lack of a comprehensive process for documenting and assessing critical skills has hampered SHA's efforts to identify and close gaps.

Gap-closing strategies were developed at the organization and office levels. Through a series of senior management team meetings, SHA was able to identify strategies for addressing organization-wide challenges. In addition, each office through its annual business plan was expected to identify strategies for addressing its most critical workforce planning challenges. Although this process was not comprehensive, it did create an immediate response to pressing workforce issues and allowed each office to set its own workforce planning priorities.

Step 6: Implementation of Gap-Closing Strategies

Numerous gap-closing strategies have been identified by the senior leadership team. Where possible and appropriate, SHA quickly implemented a number of strategies during the planning process. The longer-term implementation plan is in progress, but the individual component parts, such as SHA University, succession planning, and business planning, are all moving forward without waiting for formalization of the workforce planning initiatives.

Step 7: Evaluation of Effectiveness and Revision of Strategies

Evaluation will continue to remain a major challenge as long as SHA lacks an integrated IT system from which performance metrics can be collected and reported in a timely manner. Informal evaluation of strategies will take place during the business planning process. Since each office is required to address its most critical workforce challenges through its business plan, the annual assessment and update process will provide an informal mechanism to evaluate the effectiveness of the strategies. The business planning process also provides a mechanism for updating strategies.

Workforce Planning Successes

SHA has accomplished a great deal in a relatively short amount of time given the absence of resources to devote to the project. Some key successes at SHA are discussed below.

SHA has fully embraced the concept of business planning to achieve outcomes and the need to link workforce planning efforts to the business plan. The administration and all of its offices have developed measurable, outcomes-oriented strategic plans. Senior managers are expected to identify workforce planning issues in their strategic plans, as well as to identify any special workforce implications of their plans.

The importance of workforce planning is widely recognized among SHA's senior managers and many of their direct reports, who have developed an appreciation for the importance of workforce planning and an awareness of how they can take charge of their workforce challenges. Managers are taking steps to address their office's most important workforce priorities.

Outside of the formal administration-wide succession planning and knowledge management efforts, managers across the organization have begun to accept ownership of workforce planning. Senior managers have begun their own informal and formal efforts to retain knowledge and prepare successors.

Although SHA's workforce planning program is in its early stages, the organization has developed a sound workforce planning program that includes a plan for full implementation with assigned responsibilities.

SHA's external scan, led by a highway industry expert, provided the foundation for a deep discussion of expected trends by SHA's managers, who where able to incorporate a broader world view into their workforce planning efforts. Several leaders at SHA cited this as a best practice for grounding leaders in the future as they embark on workforce planning activities.

SHA's office-level workforce planning assessments required managers to step back from the hectic day-to-day work environment and think strategically about how the office's operating environment might change in the future, how the unit's services might be provided differently, and what types of skills and abilities would be needed in the future. This process

led to the identification of many crosscutting problems and solutions and gave the managers the opportunity to recommend solutions to the highest level of leadership.

SHA has a very good handle on the projected number and distribution of retirements, and has done a good job identifying in a qualitative manner the types of skills that will be needed in the future. The administration is in the process of developing models to compute and project staffing needs. SHA has identified competencies for some succession plan positions and is in the process of identifying them for all succession plan positions. The organization has done a thorough job of identifying leadership competencies, but has not yet done a thorough assessment of the prevalence of those competencies in the current and likely future leadership pool.

Where possible and appropriate, SHA implemented a number of strategies immediately. The longer-term implementation plan is in progress, but the individual component parts, such as SHA University, succession planning, and business planning, are all moving forward without waiting for formalization of the workforce planning initiatives. Evaluation will continue to remain a major challenge as long as SHA lacks an integrated IT system from which performance metrics can be collected and reported in a timely manner.

Success Factors

SHA has made significant strides in its workforce planning efforts. Interviews with key players in the process identified the following success factors.

The administrator and the three deputy administrators demonstrated strategic leadership regarding workforce planning. By demonstrating leadership and commitment at the top to the workforce planning process, SHA was able to achieve significant progress despite a lack of additional staff to support the program.

Each area of workforce planning—business planning, strategic staffing, succession planning, knowledge management, and the SHA University—had at least one staff-level champion who was willing to invest extra time and take a risk to make the program work. Many of those interviewed by the author did not have particular expertise in workforce planning

prior to embarking on their assignments, but all demonstrated a willingness to learn from what others had done and remain open and flexible to the potential of workforce planning.

Despite being understaffed, managers and employees across SHA participated in various workforce planning activities. Some served on committees for SHA University or succession planning; members of the Advanced Leadership Program worked to develop the knowledge management program; and almost everyone participated in some manner in either the business planning process or the workforce planning assessment. The SMT has addressed workforce planning issues in each of its biannual meetings for the past two years. This has allowed the group to work jointly on establishing administration-wide priorities and developing strategies to address workforce issues.

In 2006, for the first time, SHA included objectives and strategies for addressing key office-level workforce planning issues in local office-level business plans.

The fact that workforce planning brought together a series of seemingly unrelated initiatives into a cohesive model indicates that the organization was ready to address workforce planning issues on an organization-wide basis.

Challenges

SHA faced numerous challenges in the development and implementation of its workforce planning system. Three of the most significant challenges are summarized below.

SHA, like so many public sector organizations, lacked the types of comprehensive data sets needed to engage in effective workforce planning. The financial, human resource, and training management data systems did not collect the types of data needed on individual employee skill sets or readiness for advancement. Basic workforce indicators were not available. Much needed analysis had to be conducted using ad hoc reports and special data runs.

SHA was not funded to conduct workforce planning and therefore did not have the in-house expertise,

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Lessons Learned

Lesson 1: A complete plan is not needed to begin.

Lesson 2: Focused efforts are needed.

Lesson 3: Implementation can occur during data collection and strategy development.

Lesson 4: Consultant resources can help expedite workforce planning and implementation.

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positions, processes, or data systems to support the program. This challenge was somewhat overcome by the willingness of employees to take on workforce planning in addition to their regular duties and by the support of management to let them learn and experiment to develop a strong system.

In the beginning of its workforce planning efforts, SHA did not have a clear model for how workforce planning would be implemented and how all the components related to and supported each other. Without a clear framework, the team lost time during implementation while they developed an organizing framework. However, this is not all bad since it allowed the administration to develop a framework that fits the organization.

Lessons Learned

In speaking with those involved most deeply with workforce planning efforts, the following lessons have been learned.

Lesson 1: A complete plan is not needed to begin.
Workforce planning was the natural next step in the evolution of the management philosophy at SHA. Disconnected but compatible initiatives that had developed in different parts of the organization were able to be more fully developed and integrated once the Vision for Performance Excellence laid out a road map for implementation. While a fully developed and funded planning effort may have been a logical first step, it is not at all obvious that the organization would have made such progress in a relatively short timeframe if the initiative had been prescribed from outside of the organization.

Lesson 2: Focused efforts are needed.

Workforce planning can be a daunting and overwhelming task. By staying focused on strategic workforce issues and not implementing a one-size-fits-all solution, SHA was able to realize early success in several areas and allow flexibility to address issues that managers perceived as being most important to their success.

Lesson 3: Implementation can occur during data collection and strategy development.

Workforce planning is never finished. The process is continual. Keep in mind that good ideas can be implemented while the process is still being designed and data are being collected.

Lesson 4: Consultant resources can help expedite workforce planning and implementation.

SHA did use a consultant to assist with the design of the workforce planning initiative and to conduct a workforce assessment. Several people interviewed wished SHA had brought in more consultant resources earlier in the process to move along various portions of the implementation plan more quickly than could be done with in-house resources alone.

Summary

Through the vision of Administrator Neil Pedersen and the dedicated efforts of numerous managers and staff members, SHA has been able to develop a comprehensive and strategic approach to workforce planning. While, through its own admission, SHA has not been able to staff its workforce planning efforts adequately, it has been able to bring a strategic focus to efforts that were already under way and add new activities as needed to round out its workforce planning process. From an outsider's perspective, SHA has made a tremendous amount of progress in the area of workforce planning, despite the fact that the process is not mandated or supported by DBM or Maryland's DOT.

According to Pedersen, much work remains to be done before workforce planning is fully operational at SHA. However, when fully implemented in four years, he expects that it will result in the following benefits.

- SHA will be more strategic about having the right number of people in the right place working most effectively in functions that are appropriately staffed by government employees.

- Employees will be much better prepared to step into leadership and key technical positions when needed.

- Employees will be used more effectively and to the best of their ability, thereby maximizing the effectiveness of each employee.

- SHA will deliver greater value within the staffing constraints, thereby enhancing the productivity of each employee.

Implementing Workforce Planning: Recommendations

The DOT and SHA case studies show that workforce planning can be implemented successfully in diverse environments using a variety of methods. While no one model is perfect, the Seven-Step Model for workforce planning provides a framework for the basic components of successful workforce planning efforts that can be adapted to the needs and culture of any organization.

From the lessons learned from the DOT and SHA case studies and the guidance of the Seven-Step Workforce Planning Model, the following recommendations are provided for public sector leaders and human resource managers.

Recommendations for Agency Leaders and HR Directors

Recommendation 1: If your organization is not already doing so, now is the time to engage in a workforce planning effort that is linked to your organization's strategic objectives.
Workforce planning is an important element of sound public sector management practice. As seen in the two cases presented, organizations can achieve success through a variety of models and processes. However, to remain competitive as employers, public organizations must engage in ongoing workforce planning, constantly reviewing and revising their workforce plans.

It is not necessary to wait until the perfect processes or support structures are in place before embarking on workforce planning. In fact, doing so may prevent an organization from moving forward. As seen in the SHA example, significant progress can be made well before all systems are in place.

According to one SHA senior manager, while he wished there had been more structure in place before they started the process, he is not sure it would have been the best process in the end. By working through the issues as an organization, the model and process that emerged were better suited to their needs than what might have developed if the process had been finalized before workforce planning efforts were started.

While good workforce planning systems include the steps outlined in the Seven-Step Model, there is no one right way. Regardless of the process used, top leadership support, commitment, and strategic vision are vital to achieve workforce planning success.

Workforce planning efforts should be targeted to areas of strategic importance. This is a circumstance where the 20/80 rule applies. By addressing the recruitment, retention, and knowledge management issues that plague the 20 percent of positions with the most significant workforce issues, the organization's workforce planning challenges will achieve significant success. Even in the best of circumstances, resources are not unlimited; therefore, such targeted efforts will maximize the benefit to the organization.

Prior to embarking on a first-time planning effort, leaders should assess the resources available to support the project. If strong data systems and good HR support are available, models like the one employed at DOT may be the best. Organizations lacking strong IT systems and support structures may employ a more focused model that can generate early successes with limited resources. These successes may make it easier for the agency to justify a larger investment in IT systems or staff. Whatever

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Recommendations

1. If your organization is not already doing so, now is the time to engage in a workforce planning effort that is linked to your organization's strategic objectives.

2. Conduct internal and external environmental scans to identify workforce trends in a proactive manner.

3. Focus workforce planning efforts in areas where the most benefit will be achieved.

4. Develop appropriate systems to collect and report on key workforce indicators.

5. Be creative in developing strategies to address workforce planning issues.

6. Develop a "doable" implementation plan.

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system is used, agencies must choose a framework that fits their needs and resources.

For organizations to realize significant benefit from the workforce planning effort, planning should be conducted at both the macro and micro levels—business unit, office, division, and organization-wide. Such a dual focus creates a process that is useful to managers throughout the organization and allows for the development of a wide range of gap-closing strategies. Both SHA and DOT adopted this dual focus approach with much success.

Workforce planning teams should include members from diverse functional areas, various levels of management, different geographic locations, and varying years of service. Diversity is helpful when identifying workforce planning challenges and creating workable strategies. Both SHA and DOT used cross-functional teams in the development of workforce planning strategies.

Recommendation 2: Conduct internal and external environmental scans to identify workforce trends in a proactive manner.

A thoughtful internal and external scanning process is critical to identifying workforce planning issues before they become problems for the organization. Environmental scans can be formal or informal—the key is that they target the most significant trends that can impact the organization's workforce. The scans should address a wide variety of topics such as industry trends; trends in public sector employment; the local, regional, and national labor supply; changes in technology or work processes; economic and community conditions that may impact the attractiveness of the community to potential employees; the availability of alternative means to achieve

the organization's mission; access to third party providers; and changes in public expectations.

Scanning teams should be composed of employees who are able to synthesize information and interpret how trends may impact the organization. Ideally, the team should include people from diverse disciplines, backgrounds, work experiences, assignments, ages, years of service, and levels within the organization.

Background material for the external scan is available from a wide variety of sources including trade publications, professional associations, government reports from organizations such as the Bureau of Labor Statistics and the Bureau of the Census, industry experts, newspapers, and journals.

SHA provides an example of a somewhat informal but highly informative scanning process. To begin the process, SHA brought in a nationally recognized expert to present to senior management his assessment of industry trends that he expected to impact SHA's workforce needs. This assessment was followed by a group discussion of expected trends. Information synthesized from the assessment was presented to each office's workforce planning team before they met with agency leaders to discuss the results of their workforce planning assessment. Several leaders at SHA cited this as a best practice for grounding leaders in the future as they embark on workforce planning activities.

Recommendation 3: Focus workforce planning efforts in areas where the most benefit will be achieved.

All organizations are limited in the amount of time and resources they have available to devote to workforce

planning. By targeting workforce planning efforts to the areas of strategic importance—those mission-critical positions that are instrumental to the organization's success and where the organization is experiencing problems recruiting or retaining employees with the needed skills or abilities—organizations will achieve the best return on investment.

Where possible and appropriate, organizations should also move to implement workforce planning strategies as soon as possible and not wait until the workforce planning process is complete. Early implementation of "quick hits"[121] shifts the focus from planning to problem solving and provides momentum to the workforce planning effort.

Recommendation 4: Develop appropriate systems to collect and report on key workforce indicators.

Access to current, accurate, and consistently available data about employees, consultants, work processes, cost, and work volume provides the critical data needed to implement workforce planning.

Organizations would be well served to invest in integrated human resource data systems that can collect and report in a timely manner key workforce indicators. Appendix IV contains a list of recommended workforce indicators. Ideally, data systems should track employee skills, competencies, and professional development activities in addition to basic HR trend data.

Integrated HR data systems should encompass all of an organization's human resources, including permanent employees, contractual employees, temporary employees, consultants, and partners. This broad view of an organization's human resources is very helpful for identifying potential workforce gaps and developing sound solutions.

Recommendation 5: Be creative in developing strategies to address workforce planning issues.

Developing effective gap-closing strategies often requires organizations to do the same activities they currently do in a different manner or to do different things. There are three key practices for developing effective workforce planning strategies. First, organizations should explore and use the existing workforce flexibilities at their disposable. Often managers have much more flexibility than they utilize.

Second, organizations should research, adapt, and implement strategies that have been successful in other organizations. Agencies who seek to replicate a novel strategy would be well served to speak with someone involved in the implementation to gain a sound understanding of the problem they were trying to address, as well as the barriers and facilitators to implementation. This information will be helpful in assessing if the strategy can work in a different situation and in identifying methods for avoiding implementation pitfalls.

Third, strategists need to "think outside of the box." While this recommendation may sound cliché, it is very appropriate in this context. Uncensored brainstorming sessions with planning teams can be useful for producing a variety of novel solutions to workforce challenges. Once promising strategies are identified, they can be assessed for implementation feasibility. It may be that new rules or regulations need to be created to allow good solutions to be implemented.

Recommendation 6: Develop a "doable" implementation plan.

Without a doable implementation plan, the best workforce planning models become ineffective. As seen in the two cases in this report, sustainability requires institutionalized processes and dedicated resources. To ensure workforce planning gets the regular attention it requires, the gap analysis, competency assessment, strategy development, and evaluation phases of workforce planning should be incorporated into the organization's management model and business practices. Institutionalization will provide a framework for managers to work the plan and be held accountable for the implementation of the plan as appropriate.

Organizations must also provide leadership, staff, and technical support for the workforce planning effort. As indicated in Recommendation 1, leadership support is essential for maintaining a focus on workforce planning. Staff support such as regular data analysis, research support, and assistance in drafting new rules and regulations is also vital for keeping the workforce planning effort moving forward. Even in organizations that do not have a formal workforce planning office, employees can be formally assigned to support the workforce planning effort as part of their normal duties. Technical

support for the workforce planning efforts includes developing, maintaining, and providing access to key HR databases.

Conclusion

Workforce planning is within the reach of every public sector organization. Obviously as with any initiative, appropriate resources in terms of funds, staffing, and support systems will make the process easier. However, once the gaps between workforce supply and demand are identified, there is no substitute for strategic and creative thinking on the part of an organization's leaders in developing strategies to close the gaps.

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Appendix I: The Relationship Among the HCAAF Systems

Figure A.1 illustrates the five components of the Human Capital Assessment Accountability Framework, or HCAAF, systems. The planning and goal-setting system component of the model (strategic alignment) provides direction for agencies' human capital efforts. It promotes the alignment of human capital strategies with agency mission, goals, objectives, and strategies. Workforce planning takes place in this system. This system is usually led by the agency's CHCO.[122]

There are three implementation systems: leadership and knowledge management, results-oriented performance culture, and talent management. The leadership and knowledge management system identifies and develops strategies for closing gaps in leadership competencies.[123] This system also ensures knowledge is captured and shared. The results-oriented performance culture system implements and manages effective performance management systems and awards programs.[124] The talent management system is responsible for correcting competency gaps, especially in mission-critical positions.[125]

The accountability system is the evaluation component of the model. This is where human capital strategies are evaluated and where opportunities for improvement are identified.[126] The evaluation results feed back into the strategic alignment system, where suggested strategy modifications are added to the plan as warranted.

Figure A.1: Relationship Among the HCAAF Systems

Source: The Human Capital Assessment Accountability Framework (HCAAF) Systems, Standards, and Metrics. http://www.opm.gov/hcaaf_resource_center/assets/hcaaf_ssm.pdf.
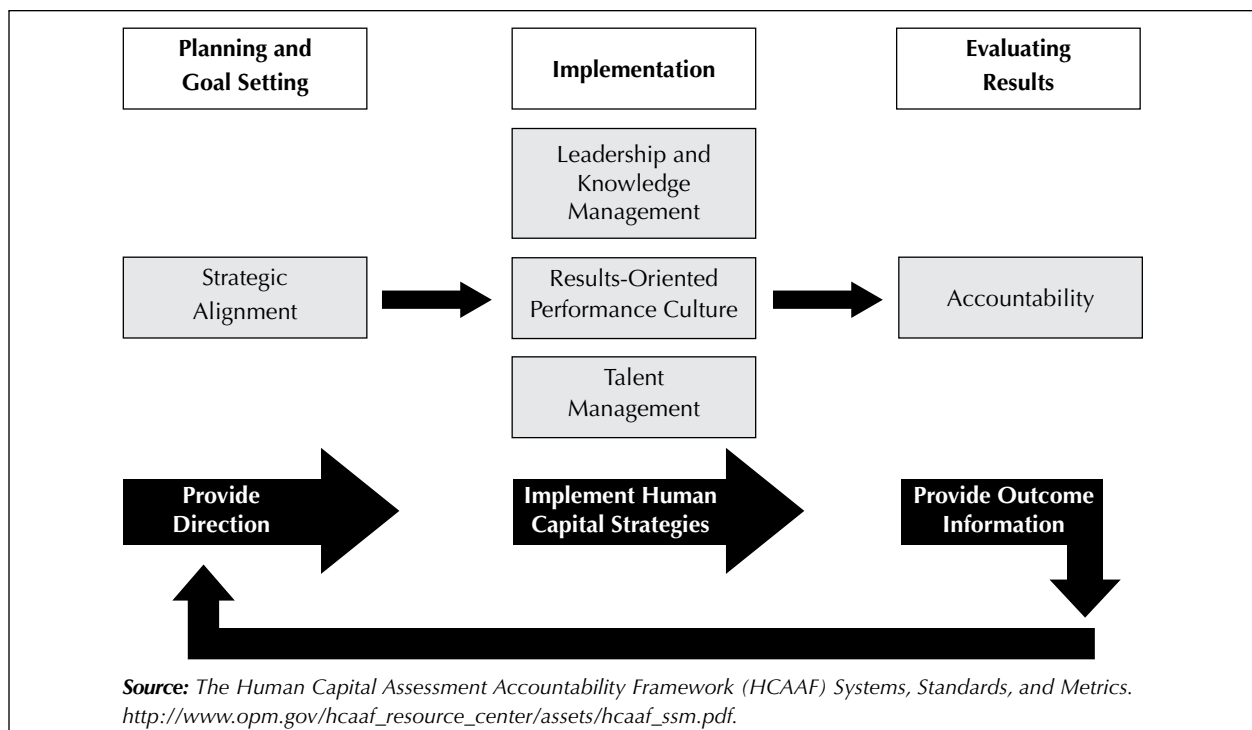
Appendix II: The Federal Workforce Planning Model

The workforce planning model of the Office of Personnel Management, shown in Figure A.2, is very similar to the Seven-Step Workforce Planning Model. The OPM model is cyclical and includes five steps: (1) setting the strategic direction; (2) analyzing the workforce supply, demand, and projects gaps; (3) developing the action plan; (4) implementing the action plan; and (5) monitoring, evaluating, and revising the action plan.

Figure A.2: Federal Workforce Planning Model

Set Strategic Direction

- Organize and mobilize strategic partners
- Set vision/mission/values/objectives
- Review organizational structure
- Conduct Business Process Reengineering
- Set measures for organizational performance

Supply, Demand, and Discrepancies

- Analyze permanent workforce
  - Demographics (age, grade, tenure)
  - Retirement trends
  - Attrition
- Describe non-permanent workforce
- Conduct skills assessment and analysis
- Identify supervisors and managers
  - Occupation
  - Grade
  - Geographic location
  - Supervisor-to-staff ratio

Monitor, Evaluate, and Revise

- Assess effectiveness
- Adjust plan as needed
- Address new workforce and organizational issues

Implement Action Plan

- Communicate the plan
- Conduct recruitment and training
- Implement retention strategies
- Restructure where needed
- Conduct organizational assessments

Develop Action Plan

- Design a Workforce Restructuring Plan
- Develop ways to address skills gaps
- Set specific goals

Source: *Adapted from the Office of Personnel Management, Federal Workforce Planning Model, http://www.opm.gov/compconf/ postconf01/position/wthomas.pdf.*

Setting the strategic direction looks at where the organization is going and what type of workforce will be needed to get there. In this step, the organization also examines the effectiveness of the organizational structure and assesses business process efficiency. Gap analysis looks at the projected difference between available supply of skills and competencies and the projected demand. Particular attention is paid to mission-critical functions at this step. The action plan can include the plethora of human capital flexibilities available to federal managers, as well as new strategies designed to meet agency-specific needs. Restructuring and outsourcing are possible strategies to examine in this step. The action plan is implemented in step four, followed by an assessment of the impact of the action plan in step five. The results of the evaluation are used to inform step one in the next planning cycle.
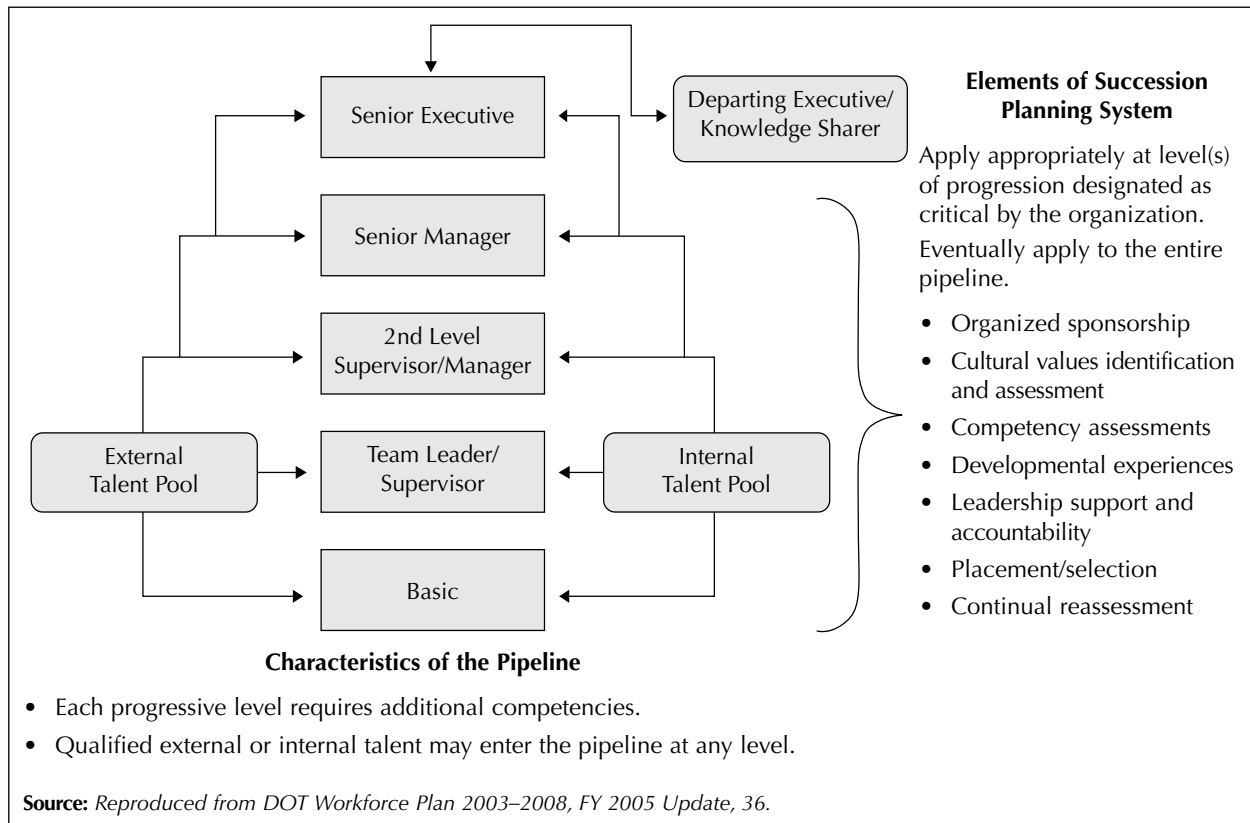
Appendix III: U.S. Department of Transportation's Succession Planning Model

The U.S. Department of Transportation's succession planning philosophy emphasizes the leadership pipeline in which the department is developing leaders at every level, and each leader is responsible for identifying and preparing possible successors. While each administration has latitude to set its own priorities and establish its own programs, all administrations must include the following common elements: (1) organized sponsorship, (2) cultural values identification and assessment, (3) identification of the talent pool, (4) competency assessments, (5) developmental experiences, (6) knowledge sharing, (7) executive and supervisory support, (8) selection and placement, and (9) continual reassessment.[127] Internal and external candidates can enter the pipeline at any level as long as they are qualified. The model, as shown in Figure A.3, emphasizes level-appropriate development and seeks to ensure that as leaders advance in the hierarchy, their leadership skills and competencies also advance.

Leadership competencies will be an important factor in the promotion and assignment of leaders.

Figure A.3: DOT's Succession Planning Systems Model

Elements of Succession Planning System

Apply appropriately at level(s) of progression designated as critical by the organization. Eventually apply to the entire pipeline.

- Organized sponsorship
- Cultural values identification and assessment
- Competency assessments
- Developmental experiences
- Leadership support and accountability
- Placement/selection
- Continual reassessment

Characteristics of the Pipeline

- Each progressive level requires additional competencies.
- Qualified external or internal talent may enter the pipeline at any level.

Source: *Reproduced from DOT Workforce Plan 2003–2008, FY 2005 Update, 36.*

Participation in formal succession planning and development programs is not a guarantee of placement. Candidates still must compete for open positions. DOT's short-term goal for succession planning is to implement systematic succession planning to prevent leadership gaps. The long-term goal is to achieve continuity of leadership.[128] Success is measured by three factors: the existence of a diversified, qualified pool of management talent; the effectiveness of leaders developed through the process; and the integration of succession planning in the department's workforce planning process.[129]

Appendix IV: Suggested Strategic Workforce Planning Performance Measures

Presented below are examples of indicators that can be used in workforce planning efforts. They can be used to identify trends or workforce issues, benchmark the organization's efforts as part of the environmental scan, and measure the effectiveness of strategies as part of the evaluation process.

General Workforce Measures

These measures examine demographic patterns in the workforce and staffing trends.

- Workforce statistics (overall and in mission-critical or targeted positions) such as years of service, grade, classification, geographic distribution, and workforce demographics

- Percent of employees eligible to retire in the next five years*

- Percent of employees in mission-critical functions eligible to retire in the next five years

- Number of managerial positions in the succession plan*

- Number of technical positions in the succession plan*

- Percent of managerial succession plan positions with a viable talent pool

- Percent of mission-critical functions performed by on-site consultants

- Ratio of supplemental staff to permanent staff

- Ratio of supplemental staff hourly cost to comparable permanent staff hourly cost including fringe benefits and overhead

- Percent of offices or divisions with a multi-year strategic workforce plan

Recruitment Measures

These indicators can be used to assess whether or not the agency is hiring the right people—those who are qualified to do the job and who are also a good fit for the organization.

- Average number of days to fill an open position*

- Average number of days to fill mission-critical positions

- Percent of new hires terminated within one year of hire*

- Percent of new hires who left voluntarily within one year of hire*

- Percent of new hires in mission-critical positions who left voluntarily

- Vacancy rate

- Vacancy rate in mission-critical positions

- Percent of new hires who meet or exceed supervisor's expectations

- Percent of new hires in mission-critical positions who meet or exceed supervisor's expectations

Employee Retention Measures

These indicators can be used to measure the success of retention efforts, assess the work environment, and assess employee morale.

- Percent of new hires who left voluntarily within one year of hire*

- Voluntary turnover, exempt*

- Involuntary turnover, non-exempt*

- Voluntary turnover, exempt

- Involuntary turnover, exempt

- Voluntary turnover, non-exempt*

- Involuntary turnover, non-exempt*

- Benefits per dollar of salary, non-exempt*

- Discrimination complaints per 1,000 employees*

- Grievances per 1,000 employees*

- Appeals per 1,000 employees*

- Ratio of professional staff salaries to comparable on-site consultant salaries

- Employee survey results regarding morale, intention to stay, job satisfaction

Training and Development Measures

These measures can be used to determine how well the organization is preparing its employees for advancement within the organization and to assess how training dollars are being invested.

- Percent of classified employees promoted*

- Training expenditures per employee*

- Training expenditures per employee in leadership track

- Training expenditures per employee in supervisory track

- Training expenditures per employee in mission-critical positions, exempt track

- Training expenditures per employee in technical, non-exempt positions

- Percent of employees with a current professional development plan

- Percent of employees who are on track with their professional development plan

- Percent of succession plan positions fully supported by professional development resources

Managing Employee Performance Management Measures

These measures assess the accountability framework in the organization and the degree to which performance and rewards are linked.

- Percent of new employees who receive a performance appraisal within the first six months*

- Percent of non-exempt employees who receive an annual evaluation*

- Percent of managers who receive an annual evaluation

- Percent of managers with a current performance-based assessment plan

- Percent of work plans that incorporate measures from the strategic plan

- Percent of employees who receive formal quarterly performance feedback

- Percent of managers and supervisors whose pay is linked to organizational performance.

These measures are based, in part, on measures reported in the Government Performance Projects' Managing People scorecard.

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