

**NCHRP PROJECT 20-24 (83):  
ALTERNATIVE DOT ORGANIZATIONAL MODELS  
FOR DELIVERING SERVICE**

*Prepared for:*

American Association of State Highway  
and Transportation Officials (AASHTO)  
Subcommittee on Organizational Management (SOOM)

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## Disclaimer

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## 1.0 Executive Summary

AASHTO's influential *'The Changing DOT'* report – written almost fifteen years ago - depicts state transportation agencies increasingly looking to strategic management practices borrowed from the private sector. The report's predictions suggested future agencies' management priorities would revolve around: 1) a focus on their *customers'* needs, 2) collaboration with *partners*, 3) downsizing and de-centralization of *workforces*, and 4) re-orientation of business process *activities* to improve schedule, cost, and quality.

Today, strategic management has gone from being a front-page headline in a high profile industry report to an accepted way of doing business among DOTs. Most DOTs have at least begun to use performance metrics and they are clearly here to stay. State DOTs today also say they have successfully institutionalized a focus on customers and partnerships, streamlined business processes, and already reaped much of the low hanging fruit when it comes to administrative and workplace efficiencies.

Despite considerable change over the last fifteen years, DOT organizational design thinking continues to evolve. In particular, the current economic climate and associated shortage of resources is driving agencies to replace a call for 'strategic management' with an emphasis on thinking about DOTs' challenges in terms of private sector 'change management' practices that necessitate organizational restructuring to survive and succeed in today's difficult environment.

### 1.1 Study Purpose and Focus

This report provides a big picture snapshot of why and how DOT leaders are re-designing their organizations. It includes a discussion of the primary drivers of these changes, characterizes the current state of DOT organizational design, describes the prominent organizational adaptations DOTs are making or plan to make, presents a new organizational ideal for DOTs, and offers observations about key success factors for initiating meaningful organizational change.

### 1.2 Drivers of State DOT Organizational Change

State DOTs today are often portrayed as less of a community of homogenous agencies, structured to deliver highway projects than they

were in the past. Nonetheless, most DOTs appear to share some or all of five important drivers for organizational change:

- **Pressure for Government Efficiency Gains** – State DOTs are being pushed to achieve greater ‘government efficiency’ and ‘do more with less.’ This is occurring as agencies roles are growing, staffing levels are being cut, and there is increased pressure to outsource. Together, these considerations are pushing DOTs to find ways to save costs in the delivery of services and even to re-examine what services they provide.
- **Demands for Performance Accountability** – The demand for ‘performance accountability’ has clearly grown over the last decade and is having significant impacts on DOT organizational structures. Several state DOT leaders emphasized that they are using performance measurement to help manage the organizational direction of their agencies and observed that Congress is likely to drive an even greater focus on accountability and performance-based decision making in the future.
- **Improved Project Delivery** – An emphasis on ‘improved project delivery’ is a major driver of organizational change within many agencies. Several interviewed DOT leaders emphasized the importance of breaking down organizational ‘silos’ inside their agencies as a way to improve project delivery.
- **Revenue Shortfalls** – The combination of aging infrastructure, growing congestion, cost escalation, shrinking revenues, weak economic conditions, and high fuel costs are worsening DOTs’ revenue shortfalls as system users choose more fuel-efficient vehicles and scale back travel, forcing DOTs to re-think their roles and organizational structures.
- **Importance of Agency Credibility** – DOT CEOs stressed the vital importance of ensuring agency credibility with state legislatures, specific stakeholders, and the public. Gaining credibility often means ensuring organizational structures meet stakeholder expectations.

### 1.3 Characteristics of State DOT Organizational Design

A review of DOTs’ organizational models suggests that many agencies share three common dimensions of organizational structure, although each DOT can be found at different points along the continuum of each dimension:

- **Silo-based versus Workflow-based DOTs** – Most DOTs favor functional organizational designs with separate groupings or ‘silos’ for various activities. A functional structure emphasizes top down management control over groupings divided by skill sets, with work passed ‘over the wall’ to the next silo. On the other end of the spectrum, a few DOTs have workflow-based organizational structures, where teams composed of employees with diverse skill sets are held accountable for final product delivery instead of for functional responsibilities related to elements of product delivery. In between these two approaches are “matrix structures” that share a mix of features from both vertical and horizontal structures.
- **Centralized versus Decentralized DOTs** – This dimension pertains to the allocation of resources and distribution of authority between a single central office and multiple regions or districts. In centralized DOTs, the headquarters controls and performs most non-construction and maintenance functions and knowledge, skills, and resources with respect to specific activities are consolidated. In decentralized operations, a DOT’s field offices have much greater autonomous decision-making power over functions like design, communications, fleet management, and public engagement.
- **In-house vs. Outsourced DOTs** – This dimension describes the extent to which DOT functions and activities are retained in-house or outsourced to other entities including the private sector and local governments. Traditional state DOT structures rely on internal staff to perform most agency functions (other than construction). Outsourced DOTs are agencies that maximize the use of private contractors, consultants, and partners (as well other public agencies) to perform or support agency functions.

Most state DOTs began life in the early 20th century as vertical, functionally organized, centralized, organizations that relied on in-house expertise for most tasks. They looked a lot alike. As the 21st century gets underway, however, DOTs increasingly are experimenting with matrix or horizontal organizational structures that decentralize decision-making around workflows and take advantage of new communication technologies.

#### 1.4 Current Trends in Organizational Adaptation

To an increasing extent, DOTs take exception to ‘one size fits all’ descriptions; each DOT CEO follows his or her own unique path in setting

direction for organizational design that matches the special challenges they face. None-the-less, our team's research suggests three broad trends are driving organizational change across many DOTs:

- **There is a shift toward hybrid silo/workflow-based organizational designs that promote nimbleness, efficiency, and innovation.** Most agencies identify themselves as having either 'functional' or 'hybrid leaning functional' organizational structures. While a large majority of DOTs expect to shift toward workflow-based structures in the future, they are layering this approach over a traditional silo structure. The anticipated benefits associated with this shift include a reduced 'over the wall' mentality, nimble responsiveness, better alignment with generational work culture changes, and greater employee empowerment. Some of the ways DOTs are becoming more team based include establishing multi-disciplinary teams, creating cross functional project managers, conducting team-based training, enhancing employee empowerment, and re-framing agency missions.
- **DOTs are 're-centralizing' some key functions to ensure efficiency and consistency, and to refocus on the core mission.** Most DOTs favor a mix of centralization and decentralization, and while about half of the DOTs that participated in the study favor semi-decentralized models (i.e., districts or regions have a high degree of autonomy), the emphasis on decentralization is waning. Instead many agencies are now selectively re-centralizing command-related functions while decentralizing delivery. The anticipated benefits associated with this 'selective approach' include better program consistency, enhanced policy alignment, reduced costs, and improved communications. Some of the ways DOTs are achieving this change include centralizing policy, command, administrative, and communication functions/ controls, while moving project delivery closer to the customer.
- **Increased interest in outsourcing as a means for operating effectively in a lean fiscal environment.** DOTs are generally outsourcing and privatizing more than in the past and expect to do so even more in the future. At the same time, it should be noted that CEOs are concerned about the implications of aggressive outsourcing due to its potential impacts on succession planning, retaining core knowledge/ expertise, and cost effectiveness. The identified benefits of this trend include the ability to respond to headcount reductions, broader access to talent, a more adjustable workforce, greater

administrative flexibility, and a potentially improved performance-focus. Some ways DOTs are changing their use of in-house resources, outsourcing, and privatization include leveraging the private sector's unique skill sets and bench strength, maintaining 'baseline capabilities' in-house while outsourcing for needs beyond baseline, outsourcing non-core functions, and broadening use of public private partnerships.

## 1.5 Running More Like a Business – A New Organizational Ideal?

The notion that public agencies - and DOTs in particular - should operate more like a business is certainly not new. What is different now is the widespread recognition that DOTs need to change how they operate and the sense of expediency associated with doing so – the need for transformation to more business-like organizational models has shifted from being a leadership prerogative to a survival imperative. While not a perfect analogy, comparisons can be drawn between the current organizational direction of state DOTs and “change management” initiatives pursued in the private sector that include:

- Restructuring organizational hierarchies to be more agile and responsive to a changing market;
- Assessing operations and refocusing on mission-critical activities;
- Aggressively cutting costs and waste through staff reductions, rationalization of assets, outsourcing, and business process reengineering; and
- Improving transparency, accountability, risk management, and communications.

Not surprisingly, DOTs appear to be responding to their changing environments by recreating and refocusing themselves along the same lines that private sector entities respond to a declining bottom line. Based on the project research, this response is defining a new DOT 'organizational ideal' that can be characterized by the following:

- **Reduced Agency Size** – DOTs are becoming smaller, leaner, and more nimble through downsizing and organizational flattening.
- **Refined Mission** – DOTs are shifting their philosophy from “yes we can” to “doing less with less,” which means focusing resources on critical functions, and spinning off or simply eliminating non-core functions.

- **Diversified Service Delivery Strategies** – DOTs are striving to deliver projects and programs faster, better, and cheaper. These efforts include increased use of outsourcing and privatization as well as non-traditional approaches to using internal resources.
- **Performance Focus** – DOT leaders are not taking even their existing funding for granted and are constantly working to build and maintain agency credibility. This includes reshaping agencies to support performance measurement and improve accountability.
- **Improved Risk Management** – DOTs are beginning to use comprehensive risk management approaches at the enterprise, program, and project levels to help identify and respond to the inherent uncertainties of managing a complex organization.

## 1.6 Final Observations

A few overarching principles emerged from our discussions with CEOs as critical to the success of efforts to adapt or change organizational structures for state DOTs and help agencies better align their organizations with strategic goals and objectives:

- Strong CEO and senior leadership is needed;
- Keep the message about the initiative simple and use straightforward metaphors to communicate goals for organizational change;
- Carefully consider the appropriate scope of change based on factors such as the goals of the change management initiative, the time available for planning and transition, the agency’s culture and nature, the agency’s unique legal and institutional parameters, and the mandate for change (both internally and externally);
- Establish the “team you need” to achieve change; and
- Be ready to invest in change, including spending on training, outreach, and management systems.

## 2.0 Introduction

AASHTO's influential *The Changing DOT* report – written almost fifteen years ago – depicts state transportation agencies increasingly looking to strategic management practices borrowed from the private sector as a guide for undertaking what is characterized as a “*reinvention of government*” in response to “*continuous, permanent change, as distinct from one-time initiatives.*” (AASHTO, 1998)

*The Changing DOT* report's predictions about the twenty-first century DOT suggested agencies' management priorities would revolve around: 1) a focus on their *customers'* needs, 2) collaboration with *partners* like local governments and MPOs, 3) downsizing and de-centralization of *workforces*, and 4) re-orientation of business process *activities* to improve schedule, cost, and quality.

Some of the organizational reinventions highlighted in *The Changing DOT* as tools for managing strategically include use of performance metrics to provide accountability; targeted staffing cuts to reduce costs and inefficiency; decentralization of responsibility that puts project delivery functions closer to the customer; streamlining of project delivery processes to cut costs and improve quality; and use of state gas tax increases, leverage from private sector finances, and outsourcing to help pay for growing programs.

So how do *The Changing DOT*'s predictions of the future made in 1998 hold up? Strategic management has gone from being a front-page headline in a high profile industry report to an accepted way of doing business among DOTs. Most DOTs have at least begun to use performance metrics and they are clearly here to stay. State DOTs today also say they have successfully institutionalized a focus on customers and partnerships, streamlined business processes, and already reaped much of the low hanging fruit when it comes to administrative and workplace efficiencies.

Many of the driving forces DOTs faced in the mid-1990s are surprisingly similar to those DOT CEOs still worry about today like “stove piping,” “budget limitations,” “program proliferation,” “customer expectations,” and “legislative accountability.” In terms of setting a future direction, the DOT community generally seems to have gotten it right, but DOTs also underestimated the massive scale of change needed. Can anyone imagine an environment today where more than half of all DOTs are able to rely on

state gas tax increases to help fix their problems as was described in AASHTO's 1998 report?

Despite considerable change over the last fifteen years, DOT organizational design thinking continues to evolve. This report identifies a conceptual framework for the next generation of organizational models that DOTs must adopt to stay effective. Like *The Changing DOT*, it borrows from the business world, but replaces a call for 'strategic management' with an emphasis on thinking about DOTs' challenges in terms of private sector 'change management' practices that necessitate organizational restructuring.

## 2.1 Why Organizational Design Matters

An underlying premise of *The Changing DOT* is that DOTs operate in a constantly shifting business environment; this holds even truer today. Pressure to make government more efficient and more accountable, shrinking gas tax revenues, and a shift from building to maintaining the Interstate system are some of today's biggest external drivers for change in DOTs. In response, DOT leaders are constantly working to adapt the organizational design of their agencies to the evolving business environment. In a survey of DOT CEOs conducted as part of the research for this project, 20 of the 27 DOTs that responded are considering or undertaking efforts to adapt their organizational structures and approaches to delivering critical programs and services.

In business, organizational structure is widely recognized as the vehicle through which business strategy is executed and accordingly, organizational design is viewed as a critical business activity for ensuring customers' expectations are met. (Deloitte, 2008) In a state DOT, organizational design has a significant impact on its ability to plan, build, operate, and maintain statewide transportation networks that meet the demands of its users. (NCHRP, 2008)

A DOT's 'organizational design' refers to the way in which its organizational responsibilities and reporting authority are aligned vertically and horizontally and made consistent with capabilities of its staff. (SHRP, 2011) Organizational design is one of four important elements that together determine a DOT's overall institutional capability to perform its prescribed roles and responsibilities. Other elements that determine the institutional capability of a DOT include 'culture and leadership,' 'resource allocation,' and 'partnerships.' (SHRP, 2011)

This report provides a big picture snapshot of why and how DOT leaders are re-designing their organizations. It also offers a roadmap for current themes and topics of particular interest to the Subcommittee on Organizational Management (SOOM) of AASHTO's Standing Committee on Performance Management, which was established to provide a forum for tackling organizational change topics.

## 2.2 Study Approach

**Literature Review** – The High Street Team prepared a targeted review and synthesis of the literature that focused on gathering relevant information about traditional and emerging organizational design typologies within DOTs and the pressures that are driving DOTs to consider and implement new organizational structures. Results were summarized in a Technical Memo and are incorporated throughout this final report.

**Initial CEO Interviews** – To supplement the findings from the literature review and inform development of an electronic survey the High Street Team conducted a series of phone interviews with selected current and past DOT senior executives. Interviewees included:

Stan Gee (NYSDOT)	Kirk Steudle (MIDOT)
Paula Hammond (WSDOT)	Deb Miller (Former KDOT Secretary)
John Halikowski (AZDOT)	

Prior to the interview, each CEO was provided with a short set of questions related to organizational issues.

**Electronic Survey** – The project team developed a 27 question electronic DOT survey geared toward CEO-level respondents. Survey content was informed by the literature review and five DOT CEO interviews. The survey was reviewed by the NCHRP project panel. (A copy of the electronic survey results is included in the Appendix.)

State DOT CEOs for all 52 AASHTO members were invited via an email from AASHTO's Executive Director to complete the electronic survey using an online instrument (surveymonkey.com). AASHTO's invitation was sent on February 21, 2012 and a follow-up reminder email was sent on March 13. The survey was closed on March 19. Twenty-seven State DOTs responded to the survey including one anonymous response. (See Figure 1.)

**Follow-up Interviews** – To supplement the electronic survey findings, the High Street Team conducted an additional round of phone interviews with the following state DOT CEOs and senior executives:

Shailen Bhatt (DelDOT)	Brian Ness (ID DOT)
Mara Campbell (MoDOT)	John Njord (UTDOT)
Gene Conti (NCDOT)	Ananth Prasad (FLDOT)
John Halikowski (AZDOT)	Kirk Steudle (MIDOT)
Michael Lewis (RIDOT)	Keith Golden (GADOT)
Joan McDonald (NYSDOT)	

Prior to their interviews, each CEO was provided with a short set of questions related to organizational issues.

**Figure 1. DOT Survey Respondents**

State	Name	Title
Alabama	John R. Cooper	Transportation Director
Alaska	Marc Luiken	Commissioner
Arizona	John Halikowski	Director
Arkansas	Scott Bennett	Director
Colorado	Don Hunt	Executive Director
Delaware	Shailen Bhatt	Secretary
District of Columbia	Terry Bellamy	Director
Florida	Ananth Prasad	Secretary
Hawaii	Alvin Takeshita	Division
Idaho	Brian W. Ness	Director
Kansas	Barbara Rankin	Acting Secretary
Maine	David Bernhardt	Commissioner
Massachusetts	Richard Davey	Secretary and CEO
Michigan	Kirk Steudle	Director
Mississippi	Melinda McGrath	Executive Director
Missouri	Mara Campbell	Dir. of Customer Relations
New Hampshire	C. Clement, Sr.	Commissioner
New York	Joan McDonald	Commissioner
North Carolina	Gene Conti	Secretary
Oregon	Matthew Garrett	Director
Rhode Island	Michael P. Lewis	Director
South Carolina	Robert St Onge	Secretary
South Dakota	Darin Bergquist	Secretary
Utah	John Njord	Executive Director
Vermont	Brian Searles	Secretary
Wisconsin	Mark Gottlieb	Secretary

## 2.3 Report Structure

This report has six chapters:

- *Introduction* – An overview of the project purpose;
- *Drivers of State DOT Organizational Change* – A review of the principal factors affecting organizational design in DOTs today;
- *Organizational Characteristics of DOTs* – A summary of primary organizational characteristics of DOTs;
- *Critical Trends in Organizational Adaptation* – A summary of how individual DOTs are making changes in organizational design;
- *Running More Like a Business – A New Organizational Ideal?* – Conclusions about the future organizational direction for DOTs;
- *Keys to Success* – Factors that affect the success of DOTs' efforts to make organizational changes; and
- *Considerations for Follow-on Research* – Based on research conducted, ideas for follow-on research.

## 3.0 Drivers of State DOT Organizational Change

In this chapter, we review the drivers that DOTs view as today's major influences on organizational design within their agencies. *The Changing DOT* provides a helpful benchmark for how the major influences on DOTs have changed over time. Pressure to become more customer-focused and to be multimodal transportation providers has largely been conquered. By contrast, meeting funding challenges and the need to be accountable have only grown. As discussed below, much of what drives organizational design within DOTs today stems from harsh economic conditions and heightened expectations of accountability.

### 3.1 Five Contemporary Drivers of Organizational Change

State DOTs today are often portrayed as less of a community of homogenous agencies, structured to deliver highway projects than they were in the past. Instead, each state DOT is viewed as creating its own unique 'transportation provider' mission, organization, and culture in response to its own customer expectations, financial resources, political landscape, and physical context. Nonetheless, our interviews and survey of state DOT CEOs suggest most DOTs share some or all of five important drivers for organizational change that reflect current political and economic realities (additional drivers are identified in the survey findings contained in the Appendix):

1. Pressure for government efficiency gains;
2. Demands for performance accountability;
3. Need for improved project delivery capabilities;
4. Revenue shortfalls; and
5. Importance of agency credibility.

The drivers of organizational change described in this chapter were identified via a combination of a review of current literature, interviews with selected DOT CEOs, and results from an electronic survey that generated responses from 27 state DOTs. The identified five drivers of change are noticeably synergistic: better efficiency in areas like project delivery, for example, helps DOTs become more accountable and gain credibility while managing through revenue shortfalls.

- **Pressure for Government Efficiency Gains** – Fifteen out of 27 respondents to the High Street Team's electronic survey of DOT CEOs

indicate ‘government efficiency’ is a major driver of organizational change within their agency; it was the most frequently cited reason by survey respondents for organizational change. Interest in efficiency within government is not new, but it appears to be surging alongside a revived political debate about the general role and size of government, and the perceived benefit of using internal public resources versus external private contractors.

Many of the state DOT leaders interviewed as part of the project talk about demands for greater efficiency in terms of a growing pressure on their agencies ‘to do more with less.’ This phrase is shorthand for the complex challenge of continuing to manage aging and congested transportation infrastructure and systems despite workforce and spending cuts. Several of the agencies we spoke with note that their roles have grown over time – with added focus on public engagement and non-highway modes, for example – while they have experienced considerable staff cuts.

Embedded within the focus on greater government efficiency is the expansion of agency efforts to replace internal staff with contractors. For some agencies, increased outsourcing has been a result of legislated mandates and/or political pressure to ‘to better leverage the private sector.’ For other agencies, the move to outsourcing has been one of necessity as they strive to deliver expanding roles with static or reduced headcounts.

The magnitude of staff reductions in recent years is startling. The New York DOT has reduced staff from around 10,000 to 8,500. At the Michigan, Missouri, and North Carolina DOTs, leaders have recently cut staff by 15 to 20 percent. The Utah DOT has seen its staff fall from 2,000 to 1,645 people, the Georgia DOT is currently being pressured by its state legislature to restructure and reduce headcount from 4,500 to 3,500 people, and the Louisiana DOTD has shrunk from 7,200 to 4,500 employees. If there is one clear organizational trend at state DOTs, it is that they are getting considerably smaller.

Organizational changes are almost a necessity for agencies with shrinking workforces that are faced with a pressure to do more with less. In Arizona, for example, Director John Halikowski is finding ways for the DOT to become more efficient both by solving some problems at a lower level, such as via its locally-based community relations officers

and by centralizing other functions such as human resources and information technology (IT).

The challenge of making government efficiency gains pushes DOTs to find ways to save costs in the delivery of services and even to re-examine what services they provide; often this means organizational changes.

- **Demand for Performance Accountability** – Just behind ‘government efficiency’ in the minds of DOT CEOs as a driver for organizational change is a growing demand for ‘performance accountability.’ Twelve out of 27 respondents to the High Street Team’s electronic survey indicate ‘performance accountability’ is a major driver of organizational change within their agency. This result is consistent with the fact that performance measurement has emerged as a widely embraced management tool among state DOTs over the last decade.

Several of the state DOT leaders interviewed as part of the project emphasized that they are using performance measurement to help manage the organizational direction of their agencies. Washington State Secretary Paula Hammond, for example, uses performance measures to manage all aspects of her agency. She and other DOT CEOs we spoke with describe how new performance accountability methods are helping DOTs operate ‘flatter’ organizational structures that give managers flexibility to make decisions, but hold them accountable for results. Florida DOT’s Secretary Ananth Prasad emphasized a culture he describes as ‘centralized command, decentralized execution’ that depends on the expectation among FDOT managers that they will be held accountable for their performance.

AASHTO’s *Transportation – Invest in Our Future – Performance Management* report notes that all DOTs track asset condition and safety performance data and a majority of states provide comprehensive performance data to decision makers to both increase accountability to customers and achieve the best possible transportation system performance with current investment programs. (AASHTO, 2007 i) State DOT leaders observe, however, that while they are already well-versed in performance management practices, Congress is likely to drive an even greater focus on accountability and performance-based decision making in the future.

- **Improved Project Delivery** – Eleven out of 27 respondents to the High Street Team’s electronic survey of DOT CEOs indicate ‘improved project delivery’ is a major driver of organizational change within their agency.

According to AASHTO’s *Transportation – Invest in Our Future – Accelerating Project Delivery* report, a large highway project can take from 10 to 15 years to complete—up to six years for the environmental process, and up to nine years or more for planning, design, and construction (AASHTO, 2007 ii). As explained in AASHTO’s report, such delay has very real consequences for the American public. Inadequate and congested highways cost drivers thousands of hours of lost time, and cost businesses millions of dollars in productivity. Stalled highway safety improvements literally cost lives in accidents that might have been avoided. States are working in partnership with FHWA on its ‘Every Day Counts’ initiative, which is designed to identify and deploy innovation aimed at shortening project delivery, enhancing the safety of our roadways, and protecting the environment. Similarly, the SHRP 2 program has been working to improve project delivery through initiatives such as *Project Management Strategies for Complex Projects*, which is exploring the integration of more dimensions (i.e., context and financing) into project management approaches.

Several interviewed DOT leaders emphasized the importance of breaking down organizational ‘silos’ inside their agencies as a way to improve project delivery. Michigan DOT Director Kirk Steudle describes a philosophy of ‘making holes in the silos’ that allow for efficient collaboration across disciplines in project delivery.

- **Revenue Shortfalls** – Ten out of 27 respondents to the electronic survey indicate ‘revenue shortfalls’ are a major driver of organizational change within their agency. Experts attribute the gap to a combination of aging infrastructure, growing congestion, construction cost escalation, and shrinking revenues. Weak economic conditions and high fuel costs are worsening DOTs’ revenue shortfalls as consumers and businesses choose more fuel-efficient vehicles and scale back travel.

Our interview findings suggest DOT leaders perceive that revenue shortfalls are not merely cyclical, but are part of a long-term funding crisis that will force DOTs to re-think their basic roles and

organizational structures. Missouri DOT's Mara Campbell, for example, describes how her agency is currently undertaking a 19 percent cut in the DOT's workforce in response to the need to find \$500 million in savings that has forced leadership to radically re-think the agency's organizational strategy. Most of the other interviewed DOT leaders also are seeking ways to increase organizational efficiency as a means to cut costs.

A 2012 AASHTO-sponsored workshop, '*Leading in Lean Times*,' focused on examining management responses to 'lean times.' As Idaho DOT's Director Brian Ness noted in an AASHTO summary of the event, he has found a lot of ways for Idaho DOT "to do things a little bit more efficiently," by focusing "on the way our organization is structured."<sup>1</sup> Many of the CEOs we talked with spoke about the need to re-centralize some of their organizational functions as a way to cut costs and live within their means.

- **Importance of Agency Credibility** – Ten out of 27 respondents to the electronic survey indicate 'importance of credibility' is a major driver of organizational change within their agency. In our CEO interviews, everyone stressed the vital importance of ensuring agency credibility with state legislatures, specific stakeholders, and the public. Gaining credibility often means ensuring organizational structures meet stakeholder expectations. Secretary Prasad of the Florida DOT, for example, stressed the importance of 'consistent, predictable, and repeatable' decision-making within his agency as a foundation for gaining and maintaining credibility with key audiences. For other DOT CEOs, such as Brian Ness of Idaho, the need to regain credibility and improve external accountability with key decision-makers was the primary motivation for undertaking a major reorganization.

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<sup>1</sup> [http://www.youtube.com/watch?v=lCs\\_thhjE\\_A](http://www.youtube.com/watch?v=lCs_thhjE_A)

## 4.0 Characteristics of State DOT Organizational Design

State DOTs are complex organizations that defy simple generalizations, both because of the widely varying roles and responsibilities of DOTs from state to state, and because of the way different DOTs have evolved since the Interstate era. A review of DOTs' organizational models, however, suggests that many state transportation agencies share three common dimensions of organizational structure – silo-based versus workflow-based organizations; centralized versus decentralized organizations; and in-house versus outsourced organizations – although each DOT can be found at different points along the continuum of each dimension.

### 4.1 Silo-based versus Workflow-based DOTs

This dimension spans from DOTs organized around functional disciplines in silos to DOTs organized around multi-disciplinary teams that follow workflows:

- ***Silo-based DOTs*** – Most DOTs favor functional organizational designs with separate groupings (or 'silos') for functions like design, right of way, environment, and planning. A functional structure emphasizes top down management control over groupings divided by skill sets. People within each functional department communicate primarily with others in the same department to coordinate their work and accomplish tasks or implement decisions that are passed 'over the wall' to the next silo.

Silo-based organizations are most effective in stable business environments where well-defined business processes and customer needs dominate, and control is valued over flexibility, entrepreneurship, and innovation. Silos allow the organization to capitalize on the efficiency gains from coordinated use of specialized technical skills, facilities, and equipment.

A functional structure can be effective if there is little need for flexibility, innovation, or rapid response, which requires greater horizontal coordination. Information flows up and down the vertical hierarchy, and the chain of command converges at the top of the organization.

Weaknesses of a functional organizational structure include problems with communication and coordination across the silos as well as

potential for cross-functional conflict and rivalry. These weaknesses tend to impede the organization's ability to respond nimbly to new challenges or to innovate as a whole.

- ***Workflow-based DOTs.*** On the other end of the spectrum are workflow-based organizational structures. Teams composed of employees with diverse skill sets are held accountable for final product delivery instead of for functional responsibilities related to elements of product delivery. This allows the organization to be more flexible and tailor services to fit customer needs. For DOTs, project delivery is an obvious area where workflow-based organizational structures may make sense.

The main disadvantage of a workflow-based organizational design is that the definition of a team may be arbitrary for some business lines, particularly administrative services and may not work for all business functions. In addition, transitioning from a functional organization to a workflow-based one may be difficult as managers in strongly functional departments may feel a loss of 'turf' and resist such change.

Anecdotal evidence suggests only a small number of DOTs deviate from the traditional silo model. For example, the Missouri DOT uses a team-based design to organize around three major areas: organizational support, system delivery, and system facilitation.

- ***Matrix-based DOTs.*** In between functional and work-flow-based organizations, matrix structures share a mix of features from both vertical and horizontal structures. A matrix organization, for example, may combine a functional silo structure with a strong horizontal communication and coordination mechanism to overcome the disadvantages of silos by opening up communication channels across the agency. In this structure, there are continuing dual responsibilities and reporting lines both to the function and to the product line or project/service. While the matrix structure allows the organization to simultaneously pursue different types of strategic initiatives, the main drawback is the difficulty and complexity in managing and balancing two lines of authority.

Many organizations use full-time integrators, such as product managers, project managers, or brand managers, to provide strong horizontal coordination. This is the case in some state DOTs, where project (development and/or construction) managers' responsibilities cut across traditional single function silos. The integrator's job is to

coordinate the work of several departments. Integrators in most organizations have a lot of responsibility but little authority, which of course adds immeasurably to the challenges of the job.

The North Carolina DOT uses a matrix design by adding a horizontal communication overlay to the vertically arranged departments by function.

## 4.2 Centralized versus Decentralized DOTs

This dimension of DOT organizational structures pertains to the allocation of resources and distribution of authority between a single central office and multiple regions or districts. According to NCHRP research, every state DOT (except for the District of Columbia DOT) has field regions for the core purpose of maintaining the roadway systems under the state's jurisdiction. Most also oversee construction and rehabilitation projects from field offices. (NCHRP, 2008)

- **Centralized DOTs.** On the centralized end of the continuum, the DOT's central office controls and performs most non-construction and maintenance functions including roadway and bridge design, environmental analysis, and project programming.

With a centralized structure, all knowledge, skills, and resources with respect to specific activities are consolidated, providing a valuable depth of knowledge for the DOT. This is most effective when in-depth expertise is critical to meeting DOT goals, when the organization needs to be controlled and coordinated through a vertical hierarchy, and when efficiency is highly important. It has been the predominant structure for large government agencies, such as state DOTs, for years.

- **Decentralized DOTs.** In a highly decentralized operation, a DOT's field offices have much greater autonomous decision-making power over functions like design, communications, fleet management, and public engagement.

Organizing according to geographic areas is rather common for large-scale enterprises whose strategies need to be tailored to fit the particular needs and features of different geographical areas.

According to NCHRP research, the trend in the last several decades has been for DOTs to decentralize functions as much as possible to put them closer to the customer. A disadvantage of decentralized structures, however, is redundancy in functions, resources, and

processes across all decentralized units. In addition, decentralized agencies often foster a ‘kingdom’ mentality that can result in lack of consistency and predictability across an agency.

### 4.3 In-house vs. Outsourced DOTs

This dimension describes the extent to which DOT functions and activities are retained in-house or outsourced to other entities including the private sector and local governments.

- ***In-House DOTs.*** The traditional state DOT structure relies on internal staff to perform most agency functions. While construction has always been heavily contracted, other functions including design, ROW, planning, maintenance, and various administrative functions were likely to be handled by in-house resources. Today, most DOTs have moved to outsource some of these and other functions (or a least a portion of some of them), but still primarily rely on in-house resources to deliver many of their core services. The major benefits of this approach are that it maximizes control and enables cross training; on the other hand, it reduces an agency’s ability to quickly adapt to evolving issues and needs
- ***Outsourced DOTs.*** Simply put, outsourcing is the use of external resources (including both private contractors and consultants as well other public agencies) to perform or support agency functions. Use of outside contractors has become more common among state DOTs as fluctuations in funding levels have made it difficult for them to retain a high level of technical capacity in-house. Outsourcing allows DOTs to focus limited resources on developing and retaining the core competencies in the workforce and access other skill sets to meet project demands as they arise. It can make agencies more nimble and able to adapt to unpredictable funding levels over time, but also introduces a new set of management challenges around contracts, finances, performance, and the workforce. Moreover, while many stakeholders and elected officials often assume that cost savings can automatically be achieved through external contracting, sometimes there are hidden costs and frequently the savings may be more perception than reality.

Most state DOTs began life in the early 20th century as vertical, functionally organized, and centralized organizations that relied on in-house expertise for most tasks. They looked a lot alike. As the 21st century gets underway, however, DOTs increasingly are experimenting with matrix

or horizontal organizational structures that decentralize decision-making around workflows and take advantage of new communication technologies.

## 5.0 Current Trends in Organizational Adaptation

To an increasing extent, DOTs take exception to ‘one size fits all’ characterizations of their organizational structures and processes. Each DOT CEO follows his or her own unique path in setting direction for organizational design that matches the special challenges they face. None-the-less, our team’s research suggests three broad trends are driving organizational change across many DOTs:

- A shift toward hybrid silo/workflow-based organizational designs that promote nimbleness, efficiency, and innovation;
- Organizational re-centralization of some key functions that ensures efficiency, consistency, and a refocus on core mission; and
- Increased interest in outsourcing as a means for operating effectively in a lean fiscal environment.

This chapter describes how the DOTs interviewed or surveyed as part of the project are changing along these paradigms. In addition, while these three areas capture much of the organizational change, there are other areas where DOTs are employing organizational innovations to leverage existing resources and better deliver programs and services; several of these areas also are discussed in this chapter.

### 5.1 Move Toward Hybrid Silo/Workflow-based Organizations

**Functional Silo Organization Structures Dominate at DOTs –** According to the survey of DOTs, most agencies identify themselves as having either ‘functional’ (11 out of 27 respondents) or ‘hybrid leaning functional’ (7 out of 27 respondents) organizational structures.

A functional organizational structure is a traditionally dominant organizational approach for large corporations and government agencies that features a functional arrangement around separate departments, e.g. accounting, engineering, human resources, etc., that are silos of specialized expertise. It also usually features a strong top-down, hierarchical control structure in which a small number of people control decision-making authority at the apex of the organization and decisions are channeled vertically through separate departments. A good discussion of the general characteristics of silo organizations can be found in *Organization Theory and Design* (Daft, R.L; 2004).

**DOTs Expect a Move to Workflow-based Structures –** Overwhelmingly (24 out of 27 respondents), DOTs say they expect to shift

away from functional structures toward workflow-based structures in the future.

Workflow-based structures emphasize shaping internal organizational boundaries to allow a high degree of coordination across functions and an orientation around work products. They are also distinguished by team-based structures that diminish hierarchical differences while empowering employees. As a result, these organizations can become more nimble in response to a changing environment. Five state DOTs responding to the survey identified themselves as either leaning toward, or mostly, team based including Maine, Mississippi, Missouri, North Carolina, and Vermont.

**DOTs are Layering a Workflow-based Philosophy Over a Traditional Silo Structure** – Despite the strong interest among DOTs in workflow-based organizations, most of the DOT leaders we spoke with do not foresee major changes in the functional ‘boxes’ on their organizational charts. Rather, they are – as Michigan DOT’s Kirk Steudle describes it – ‘poking holes in the silos’ to encourage the kind of benefits that a workflow-based structure generates.

#### **Benefits of Workflow-based DOTs**

- ***Reduced ‘Over the Wall’ Mentality*** – A workflow-based organization tends to de-emphasize handing off projects and processes ‘over the wall’ at key stages. Instead, teams stay with a process or project from start to finish, which encourages efficiency and innovation.
- ***Nimble Responsiveness*** – A flatter organizational structure means issues can be addressed closer to the source and therefore more swiftly rather than being ‘driven up the flag pole’ for resolution.
- ***In Tune with Generational Work Culture Shift*** – A less hierarchical organizational structure matches the work styles of the newest generation of DOT workers.
- ***Employees are Empowered to Innovate*** – A flatter organizational structure gives employees more opportunities to innovate, which can help DOTs develop creative solutions in lean times.

## How are DOTs Becoming More Team-based?

- **Multi-Disciplinary Leadership Teams: Arizona and Michigan DOTs** – At Arizona DOT and Michigan DOT, the agencies’ basic organizational ‘boxes’ are not being torn down, but Director Halikowski in Arizona and Director Kirk Steudle in Michigan have each established a leadership team to ensure commitment from the highest levels of their agency to team-based approaches that work to ensure better communication across the current organizational structure.
- **Cross Functional Project Managers: Utah DOT** – Utah DOT Director John Njord describes how his agency uses project managers who cut across silos to solve problems.
- **Team-based Training: Arizona DOT** – Director Halikowski emphasizes training as a key to success. Managers across all of AZDOT are taking ‘Transitional Change’ training, which is based on training provided by AASHTO’s leadership academy.
- **Employee Empowerment: Florida and Missouri DOTs** – Florida DOT’s Ananth Prasad and MoDOT Director Kevin Keith both emphasize the importance of giving employees empowerment to innovate. ‘Practical Design’ is an example from Missouri of how employees are being given more flexibility to make judgment calls about what is needed and where savings can be achieved.
- **Re-Frame the DOT’s Mission: Rhode Island DOT** – At Rhode Island DOT, Director Michael Lewis is encouraging a flatter, team-based organizational structure by re-framing the DOT’s mission as a shared responsibility for ‘asset management’ that crosses all organizational boundaries.
- **Leadership from the Top: Arizona, Florida, Michigan, Rhode Island DOTs** – CEOs Halikowski, Prasad, Steudle, and Lewis all emphasize the importance of leadership in setting the tone for the rest of the agency to follow. Michigan’s Steudle characterizes his core direction to staff as ‘better, faster, cheaper, smarter.’ Florida’s Prasad emphasizes ‘consistent, predictable, and repeatable.’

## 5.2 Centralized versus Decentralized Organizations

**Most DOTs Favor a Mix of Centralization and Decentralization** – More than half of the DOTs that responded to the survey decentralize some level of authority to districts, although no agencies characterized themselves as fully or mostly decentralized. About half of the survey

respondents (12 out of 25) favor semi-decentralized organizational models where decisions regarding system operations and maintenance, project development and delivery, public engagement, and/or various administrative functions are made at the district or regional level with a high degree of autonomy. At the same time, a few DOTs (5 out of 25) consider themselves mostly or completely centralized, where headquarters controls most policy decisions, administrative functions, and project development; field units are largely focused on project implementation, system operations, and maintenance.

Organizing according to geographic areas (decentralization) is rather common for large-scale enterprises whose strategies need to be tailored to fit the particular needs and features of different geographical areas and where the scope and nature of activities cannot be effectively delivered from a central location. Conversely, centralization is most effective when in-depth expertise is critical to meeting organizational goals, when the organization needs to be controlled and coordinated through a vertical hierarchy, and when efficiency is highly important.

**The Emphasis on Decentralization is Waning** – According to NCHRP research, the trend in the last several decades has been for DOTs to decentralize functions as much as possible to put them closer to the customer. (NCHRP, 2008) However, this appears to have created a new set of issues. Several DOT CEOs noted the propensity of decentralization to encourage a “regional kingdom” mentality, which in turn creates barriers to aligning field activities with central office policies, priorities, and strategic direction, and thus negatively affects accountability. For example, Florida’s Ananth Prasad commented “We’ve been decentralized for 20 years...our seven districts became kingdoms and headquarters only set broad policy....the same question [asked of each district] would receive seven different answers.”

Decentralized structures also tend to create redundancy in functions, resources and processes across all decentralized units, which is difficult to justify in an era of increasingly scarce resources.

In response to these negative considerations, some DOT’s have begun to “re-centralize” by selectively pulling functions and responsibilities back to headquarters. Based on the survey, nearly half of the states with a current structure that leans toward decentralization (5 of 12) plan to become more centralized and only two of 25 DOTs expect to become more decentralized.

**DOTs are Selectively Re-centralizing Command-related Functions while Decentralizing Delivery** – The comments of DOT CEO’s about their direction with respect to centralization and decentralization reflect a complex set of trends. Many of the state DOTs that significantly decentralized over the last two decades (or have always been decentralized) have begun to “re-centralize” policy-making and control functions and/or administrative functions. For example, Director Steudle of Michigan DOT, Commissioner McDonald of New York DOT, and Secretary Prasad of Florida DOT have all been working to re-establish and invigorate the policy making, standard setting, and command roles of their agencies’ central offices. Similarly, several DOTs including North Carolina, Utah, Alaska, and Arizona are centralizing many administrative functions to improve consistency and eliminate redundancies.

At the same time, a number of DOTs are decentralizing project development and delivery functions. These include states such as Arizona, North Carolina, and Idaho that are striving to empower their field staff to be more innovative and more responsive to customer interests and demands.

### **Benefits of “Selectively Centralizing” DOTs**

- ***Program Consistency*** – Centralization of responsibility for establishing and enforcing standards, procedures, and policies for various functions helps ensure DOTs adopt a more consistent approach to doing business across their states. This, in turn, can lead to more uniform quality of services and facilities, and may even save money by reducing barriers to greater completion for contracts (e.g., contractors do not need to learn and accommodate different requirements and practices for each district) or eliminating staff redundancies.
- ***Policy Alignment*** – Similar to improving consistency, a key reason for centralizing policy-making and command functions is to ensure that field staff are supporting agency goals and aligning their actions and decisions with department policies.
- ***Cost Savings*** – Having each district or other business units maintain their own staff, systems, expertise, etc. to carry out various administrative functions can be expensive and inefficient. Centralizing many of these functions, particularly as programs shrink and administrative demands become more specialized can help achieve greater economies of scale, better utilize staff, and operate more efficiently.

- ***Improved External and Internal Communications*** – Agencies that centralize external communications functions are likely to convey a clearer and more consistent message, and interface more uniformly with the public, the media, and elected officials than when this function is handled at the field level.

### **How are DOTs Changing their Centralization-Decentralization Mix?**

- ***Centralizing Policy and Command: Michigan, Florida, and New York DOTs*** – Several DOTs are moving to gain more centralized control over the policies, standards, and procedures. As described by Florida’s Ananth Prasad “We don’t want to tell them [district staff] what to do, we want to define “the box” within which they operate and make decisions.” New York DOT’s Joan McDonald aims to keep the agency generally decentralized, but centralize policy making to establish consistent policies and procedures for project delivery and operations/maintenance. Similarly, the Michigan DOT has added positions to establish better alignment between the field and the central office.
- ***Moving Project Delivery Closer to the Customer: North Carolina, Idaho, and Arizona DOTs*** – As DOTs with highly centralized project development structures, the North Carolina, Idaho, and Arizona DOTs are shifting more of the functions and decision-making associated with project development and delivery to their districts to improve customer responsiveness, expand multimodalism, and promote innovation. A key difference between these efforts and older DOT decentralization efforts is the incorporation of strong accountability mechanisms to ensure consistency with Department standards and policy goals is maintained.
- ***Centralization of Administrative Functions: Idaho, Arizona, Alaska, and North Carolina DOTs*** – A number of CEOs noted that they are centralizing various administrative functions such as budget, human resources, information technology (IT), and legal. Much of this centralization is being done to promote greater consistency, but also to save resources. For example, Director Halikowski is centralizing Arizona DOT’s IT functions to standardize the tools and resources the department is using to improve consistency, drive down agency IT costs, and reduce inefficiencies. Alaska is focusing on centralizing functions that are not core functions

for its regions to allow field staff to concentrate on core functions. In North Carolina, the CEO is consolidating several administrative functions that had been conducted independently by modal units as a means to better integrate the agency's modal activities and establish a more intermodal culture within the agency.

- **Centrally Managing Communications: Utah and New York State DOTs** – The CEOs for Utah and New York DOTs noted their efforts to increase central control of agency communications with the media, the public, and elected officials. In both cases, this has not required shifting people or authority to speak on behalf of the agency. Instead, it has meant changing reporting relationships or working more diligently to ensure field staff is aligned with broader agency messages.

### 5.3 In-house versus Outsourced Organizations

**DOTs are Generally Outsourcing and Privatizing More than in the Past** – The survey results suggest that half (13 out of 25) of DOTs are outsourcing/privatizing more than they used to. Based on the follow-on discussions with CEOs most of this change is related to outsourcing rather than privatization. In fact, other than a few anecdotal examples, DOTs appear to be making limited use of true privatization.

The traditional state DOT structure relied on internal staff to perform most agency functions. While construction has always been heavily contracted, other functions including design, ROW, planning, maintenance, and various administrative functions were likely to be handled by in-house resources. Today, most DOTs have moved to outsource some of these and other functions (or at least a portion of some of them), but still primarily rely on in-house resources to deliver many of their core services. The major benefits of this approach are that it maximizes control and enables cross training; on the other hand, it reduces an agency's ability to quickly adapt to evolving issues and needs

**Most DOTs Expect to Outsource/Private More in the Future** – 15 of the 25 respondents expect they will outsource or privatize functions more in the future, and only 5 expect to do less outsourcing. Much of agency outsourcing plans appear to be driven by either direct requirements or the perceived need to reduce agency headcounts. As several CEOs commented, the only way their agencies can meet the current if not growing program requirements will be through aggressive use of outsourcing. Also, DOTs are facing new and more divergent staffing

needs, many of which can be more readily and more effectively secured through contracting.

At the same time, it should be noted that CEOs are concerned about the potential implications of aggressive outsourcing. In particular, agencies are concerned about succession planning and the ability to retain core knowledge/expertise. In addition, agencies are finding that outsourcing is not always a bargain (in many cases it is achieved at a premium to what it would cost through in-house resources).

### **Benefits of Increased Outsourcing and Privatization**

- ***Respond to Headcount Reductions*** – In the words of Utah DOT Director John Njord, “the private sector has unlimited resources;” while DOT’s may face limitations on the size of their in-house staff, they can readily obtain the personnel resources they need through contracting.
- ***Access to Talent*** – Several CEOs commented that even when they have the ability to hire, they struggle to attract and retain people with the capabilities, expertise, and knowledge that they need in many places, particularly when it is highly specialized. Outsourcing provides a viable means (and in some cases the only means) to accommodate these needs.
- ***A More Adjustable Workforce*** – One of the biggest outsourcing benefits CEOs cited was the ability it provides to quickly adjust to spikes and troughs in program levels. Thus while reducing in-house staff requires painful reduction in force initiatives and staffing up can both take significant time and be stymied by civil service requirements, outsourcing can be adjusted almost at will.
- ***Greater Administrative Flexibility*** – The private sector can often avoid much of the bureaucracy associated with procurement and other administrative functions. For example, the contractor that is now operating the Atlanta Area ITS system for the Georgia DOT under a performance-based contract is able to sole source for various replacement parts without dealing with bureaucratic red tape; this enables them to respond to maintenance needs more quickly and with less expense.
- ***Improved performance-focused*** – Outsourcing and privatization can often enable agencies to create financial incentives for improved

performance that could not be achieved using in-house resources because laws, rules and/or agency culture will not allow it.

### **How are DOTs Changing their use of In-house Resources, Outsourcing and Privatization?**

- ***Leveraging the Private Sector’s Unique Skill Sets and Bench Strength: Utah, Florida, and Georgia DOTs*** – The Utah DOT makes broad use of outsourcing to address spikes in its program. For example, the Department is currently doing a \$1.7 billion project that will be done over an extremely short period of time; the project alone will use about 500 engineers, which is more than Utah has in total. The Florida DOT aggressively shifted to outsourcing over the last two decades and currently contracts about 80 percent of its maintenance, design, and construction work. Secretary Prasad hopes to increase this to 90 percent. The Georgia DOT is outsourcing a much larger percentage of maintenance, largely as a way to accommodate pressures to reduce headcount. It is also contracting with local governments to effectively outsource the oversight of maintenance activities.
- ***Maintaining “Baseline Capabilities” In-House: Idaho DOT*** – A few CEOs discussed strategies associated with maintaining sufficient in-house capabilities to deliver a baseline program level, and then outsourcing to deliver above this level. Such an approach allows a DOT to retain a sufficient level of in-house knowledge and expertise, while shifting the risk associated with inconsistent program levels (i.e., funding) to the private sector. For the Idaho DOT (currently at about 80 percent in-house), Director Ness estimates that reducing to about 60 percent in-house would be appropriate for delivering a minimum or base program level.
- ***Outsourcing Non-core Functions: North Carolina DOT*** – Secretary Conti is outsourcing areas such as the print shop to allow the Department to focus its allowable headcount on core mission activities.
- ***Exploring Opportunities for Public Private Partnerships (P3) – Arizona, North Carolina, Ohio, Delaware, and Florida DOTs*** – The Arizona, North Carolina, and Ohio DOTs are all beginning to explore significant P3 initiatives to bring in additional investment in the system and potential help reduce

direct agency responsibilities. Delaware is looking at privatizing rest stops on toll roads and Florida has already experimented with several P3 arrangements and is considering others.

#### 5.4 Other Organizational Approaches

In addition to the activities and changes state DOTs are pursuing under the major categories of silo/team approaches, centralization/ decentralization and in-house/outsourcing, the survey and interviews identified a few other types of organizational adaptations DOTs are using to improve their service delivery in the current operating environment. These include:

- ***DOTs are Doing More to Leverage In-house Staff*** – Georgia DOT is managing its engineers the way a consulting firm uses staff in multiple offices, assigning personnel to projects throughout the State based on unique project needs and staff availability. In Utah, the DOT has consolidated its two largest workforce elements – winter snowplow drivers and construction technicians – into one position called “transportation technicians.” Doing so has enabled the Department to eliminate over 100 positions.
- ***Some DOTs are Flattening Reporting Structures*** – A few DOT CEOs have recently undertaken efforts to reduce levels of management. For example, in 2010, the Idaho DOT had nine management levels and 62 “managers” with one person reporting to them. Director Ness, has significantly restructured the agency to reduce the number of management levels to five, creating savings of \$5 million to \$8 million a year.
- ***DOT’s are Making Greater Use of Ad Hoc Teams*** – Several DOTs are using temporary teams and working groups to tackle new challenges, emerging opportunities, and special needs. For example, the New York DOT recently used an ad hoc team to deal with American Recovery and Reinvestment Act (ARRA) funding and its associated requirements. When presented with a new P3 opportunity, the Florida DOT develops temporary multidisciplinary teams to explore and develop the opportunity.
- ***DOT’s are Using Performance Measurement, Greater Accountability, and Information Systems to Support Organizational Change*** – Several DOT CEOs identified the importance of using tools and methods to complement organizational changes. In the words of Florida DOT’s Ananth Prasad “without strong

accountability, staff have a tendency to wait out organizational changes, thus you need to make it clear that there are strong implications for embracing change.” The Delaware DOT is taking view of this consideration and establishing a relationship between the ‘level of accountability’ specific units achieve and the ‘level of autonomy’ they receive. The Louisiana DOTD recently completed a major software integration of its back office systems and is using the improved information to adjust span of control, flatten reporting structures, and reallocate staff.

## 6.0 Running More Like a Business – A New Organizational Ideal?

The notion that public agencies – and DOTs in particular – should operate more like a business is certainly not new, it has literally been a mantra of government reform efforts for decades. What is different now is the widespread recognition that DOTs need to change how they operate and the sense of expediency associated with doing so – the need for transformation to more business-like organizational models has shifted from being a leadership prerogative to a survival imperative.

While not a perfect analogy, comparisons can be drawn between the current organizational direction of state DOTs and “change management” initiatives pursued in the private sector for struggling companies. A troubled business often lands where it is because it has clung to the status quo in the face of a changing operating environment, placing false hope that investors will bail them out, avoiding difficult decisions to cut costs and improve performance, and assuming customer satisfaction and loyalty will simply return. When circumstances reach a critical mass (e.g., bankruptcy looms or shareholders revolt), businesses may seek to recreate themselves by:

- Restructuring organizational hierarchies to be more agile and responsive to a changing market;
- Assessing operations and refocusing on mission-critical activities;
- Aggressively cutting costs and waste through staff reductions, rationalization of assets, outsourcing, and business process reengineering; and
- Improving transparency, accountability, risk management, and communications.

State DOTs are in no way failing businesses, but the forces of change described in chapter 3 of this report draw parallels to the circumstances that drive private sector businesses to undertake major organizational changes. The current and likely future DOT operating environment has changed to the point where hoping things will ‘return to normal’ is simply no longer an option – revenues will become even more limited, agencies will need to continue to make difficult trade-off decisions about how they use limited resources and become more efficient, and there is an ever-increasing need for agencies to improve accountability for how they spend limited transportation dollars and build greater credibility.

Not surprisingly, DOTs appear to be responding to their changing environments by recreating and refocusing themselves along the same lines that private sector entities respond to a declining bottom line. Based on the survey responses and the CEO interviews, this response is defining a new DOT “organizational ideal” that can be characterized by the following:

- **Reduced Agency Size** – DOTs are becoming smaller, leaner, and more nimble through downsizing and organizational flattening.
- **Refined Mission** – DOTs are shifting their philosophy from “yes we can” to “doing less with less,” which means focusing resources on critical functions and spinning off, or simply eliminating, non-core functions.
- **Diversified Service Delivery Strategies** – DOTs are striving to deliver projects and programs faster, better, and cheaper. These efforts include increased use of outsourcing and privatization as well as non-traditional approaches to using internal resources.
- **Performance Focus** – DOT leaders are not taking even their existing funding for granted and are constantly working to build and maintain agency credibility. This includes reshaping agencies to support performance measurement and improve accountability.
- **Improved Risk Management** – DOTs are beginning to use comprehensive risk management approaches at the enterprise, program, and project levels help identify and respond to the inherent uncertainties of managing a complex organization. As noted in the recent report entitled *Successful Implementation of Enterprise Risk Management in State Transportation Agencies (NCHRP)*, such initiatives can help agencies maintain better controls over costs and delivery schedules, and reduce the likelihood of negative public relations issues.

## 7.0 Keys to Successful Organizational Adaptation

In this chapter, we profile some of the overarching principles that emerged from our discussions with CEOs as critical to the success of efforts to adapt or change organizational structures for state DOTs and help agencies better align their organizations with agency goals and objectives.

### 7.1 Strong CEO and Senior Leadership

Nearly all of the DOT CEOs report that changes in organizational design generally come from the top. In addition, about 90 percent of the time DOTs' efforts to make organizational changes are being driven by the DOT CEO, not commissions, governors or legislatures.

### 7.2 Keep it Simple

DOT CEOs often use simple metaphors to communicate their goals for organizational change:

- 'Centralized command, decentralized execution' Ananth Prasad, Florida DOT;
- 'Faster, cheaper, better, smarter' Kirk Steudle, Michigan DOT;
- 'We are all asset managers' Michael Lewis, Rhode Island DOT;
- 'Consistent, predictable, and repeatable' Ananth Prasad, Florida DOT;
- 'More efficient, more effective, accountability, credibility, and move decision-making closer to the project' Brian Ness, Idaho DOT;
- 'Everything we do organizationally is directed at achieving three major goals: safety, mobility, and infrastructure health across all modes' Gene Conti, North Carolina DOT

These metaphors help set a tone for employees that guide their approach to organizational change.

### 7.3 Carefully Consider the Scope of Change

The project research identified a wide spectrum of organizational change initiatives occurring throughout the state DOT community, with efforts ranging from selected 'tweaks' to major agency overhauls. In determining the scope of an organizational change initiative, CEOs should consider several factors, such as the goals of the change management initiative, the time available for planning and transition, the agency's culture and nature,

the agency's unique legal and institutional parameters; and the mandate for change (both internally and externally).

#### **7.4 Establish the “Team You Need” to Achieve Change**

Several CEOs stressed the importance of getting the “right” people in place to support a change initiative. For example, the CEO's from Michigan and Idaho both stressed the importance of having a human resources chief who is willing to fight the status quo and work to find solutions. Efforts that include changes to an agency's centralization-decentralization balance may need to include district directors at the table, at least some of whom are advocates for change. Similarly, when outsourcing, a CEO may need to be careful about who manages the initiative – having the people who used to ‘do the work’ now manage it may not be a good idea since those individuals may want to see the effort fail.

#### **7.5 Invest in Change**

The success of organizational change can be heavily influenced by the level of investment an agency makes in implementing the change. At a minimum, this typically includes training to bring the agency up to speed with the new organization, to repurpose staff, and to institutionalize associated policy, standard, and process changes. In addition, organizational change may necessitate new or additional outreach with stakeholders, particular planning and service delivery partners who may now need to work with different people or work with a DOT in different ways. Lastly, organizational change may need to be supported by new or expanded performance measures, data collection, and information systems capabilities.

## 8.0 Considerations for Follow-on Research

In this chapter, we present some recommendations to the Subcommittee on Organizational Management (SOOM) for follow-on research that grew from the research conducted for this engagement.

- Analysis of potential organizational implications of MAP-21
- Analysis of how underlying legal structures of state and local governments drive DOT organizational structures. For example, how do Dillon rule vs. home rule and other state constitutional/statutory considerations influence DOT organizational structures and options?
- Evaluation of how DOT organizational changes are influencing DOT relationships with partners, stakeholders, and the general public
- A comparison of project development costs, delivery times, and other considerations for projects developed via functional/silo vs. team/matrix organizational approaches
- Research and analysis of the cost and performance implications of centralizing administrative functions
- Research and quantification of costs savings (or premium) for outsourcing/privatizing various DOT functions
- Analysis of the new DOT project/program manager – how are they different, what training and experience do they need, how are DOTs developing/obtaining them, etc.?
- Analysis of how new DOT organizational structures are changing employee empowerment
- Analysis of how selected DOT customers and partners (e.g., MPOs, local governments, modal agencies, resource agencies, contractors, consultants, suppliers, etc.) are reacting and responding to DOT organization changes
- Research on the new and changing employee “skill sets” that will be needed by DOTs in the future as their missions, roles, and organizational structures change

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- NCHRP; *A Transportation Executive’s Guide to Organizational Improvement* (2006)
- NCHRP; *Alternative Organizational Design Processes in State Departments of Transportation* (2008)
- SHRP; *Guide to Improving Capability for Systems Operations and Management* (2011)

## Appendix – Survey Results

This Technical Memo presents the research team’s findings from its Task 2 survey of state DOTs, which was conducted as part of National Cooperative Highway Research Program (NCHRP) Project 20-24 (83).

As per the project team’s approved work plan, the overall purpose of NCHRP Project 20-24 (83) is to “*help the industry think about the ways organizational structure can be better aligned with organizational strategy to achieve better performance*” and ultimately to “*lay out an agenda for the AASHTO Subcommittee on Organizational Management (SOOM) and identify potential future SOOM research initiatives to address areas where either information on agency organization approaches appears lacking, or where the development of new organizational models (particularly hybrid approaches) would benefit the DOT community.*” (Source: High Street NCHRP 20-24 (83) Amplified Work Plan)

As stated in the team’s work plan for the project, the purpose of Task 2 is “*conduct a survey of CEOs for all state DOTs. The survey will provide a useful benchmarking document that shows what DOT leaders in 2012 think about how their agencies’ organizational structures influence performance and where major opportunities exist for change in organizational design.*”

### **Survey Process:**

- **Electronic Survey Text** – The project team developed a 27 question electronic DOT survey geared toward CEO-level respondents. Survey content was informed by the literature review and five DOT CEO interviews reported in the Feb 2012 Task 1 Technical Memo. The survey was shared for review by the NCHRP project panel. Appendix A to this Technical Memo contains a copy of the electronic survey.
- **Survey Invitation and Timeframe** – DOT CEOs for all 52 AASHTO members were invited via an email from AASHTO’s John Horsley to complete the electronic survey using an online instrument (surveymonkey.com). AASHTO’s invitation was sent on February 21 and a follow-up reminder email was sent from John Horsley on March 13. The survey was closed on March 19.

- **Survey Responses** – 27 State DOTs responded to the survey including one anonymous response:

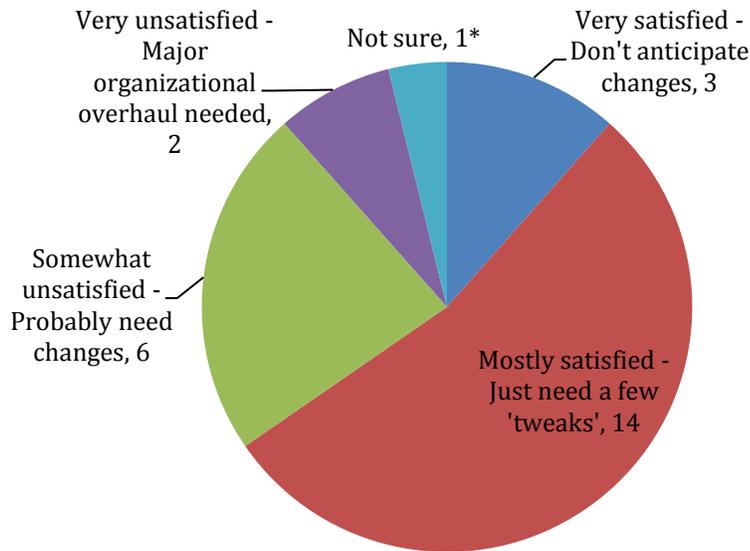
State	Name	Title
Alabama	John R. Cooper	Transportation Director
Alaska	Marc Luiken	Commissioner
Arizona	John Halikowski	Director
Arkansas	Scott Bennett	Director
Colorado	Don Hunt	Executive Director
Delaware	Shailen Bhatt	Secretary
District of Columbia	Terry Bellamy	Director
Florida	Ananth Prasad	Secretary
Hawaii	Alvin Takeshita	Division
Idaho	Brian W. Ness	Director
Kansas	Barbara Rankin	Acting Secretary
Maine	David Bernhardt	Commissioner
Massachusetts	Richard Davey	Secretary and CEO
Michigan	Kirk Steudle	Director
Mississippi	Melinda McGrath	Executive Director
Missouri	Mara Campbell	Dir. of Customer Relations
New Hampshire	C. Clement, Sr.	Commissioner
New York	Joan McDonald	Commissioner
North Carolina	Gene Conti	Secretary
Oregon	Matthew Garrett	Director
Rhode Island	Michael P. Lewis	Director
South Carolina	Robert St Onge	Secretary
South Dakota	Darin Bergquist	Secretary
Utah	John Njord	Executive Director
Vermont	Brian Searles	Secretary
Wisconsin	Mark Gottlieb	Secretary
Anonymous	-	-

## Survey Results

Following is a question-by-question summary of responses received. (Questions 1 to 5 covered contact and other general information, thus the summary starts with question 6.)

Question 6. In general, how satisfied are you with the fit between your agency's organizational model and the business goals it must serve?

**Figure 1: Fit between DOT Organizational Model and Business Goals**



Total N = 26

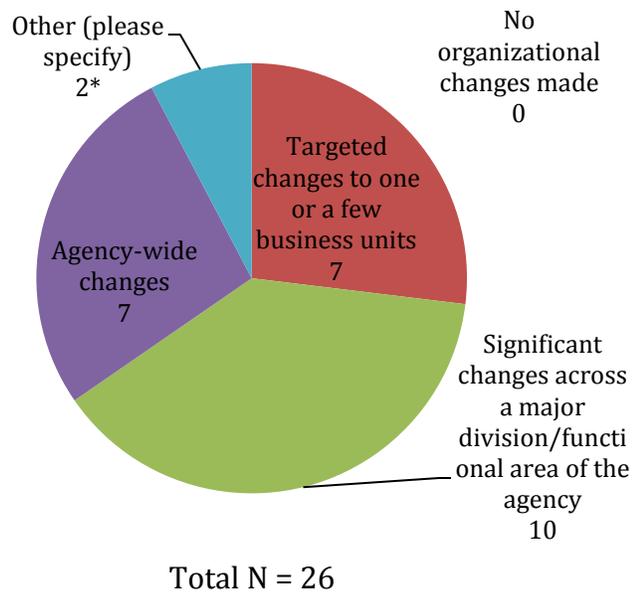
\*Kansas DOT is currently getting ready to conduct an efficiency review (with the help of a third party consultant) to assess this issue.

Comments from DOTs indicating they are 'unsatisfied' with their current organizational models:

- *New York*: "We need to adapt our organization to meet our core mission and to be responsive to more realistic funding."
- *Rhode Island*: "We are evolving toward a more unified 'asset management organization' rather than traditional design, construction, maintenance/operations and support groups."
- *Hawaii*: "Existing organization structure is very old and has not been updated to meeting current transportation needs."
- *Delaware*: "My DOT needs a major organizational overhaul. I am not making a broader statement."

Question 7. For organizational changes you have made in the last five years or are planning/implementing, what is the scale of actual or anticipated organizational changes?

**Figure 2: Scale of Actual or Anticipated Organizational Changes**

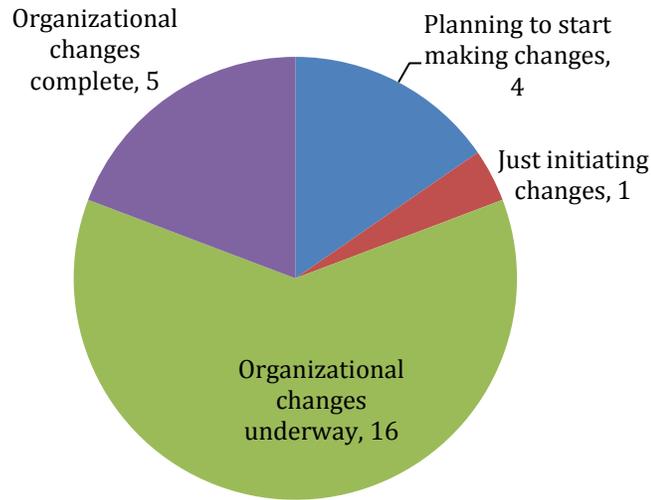


\*Responses to 'Others' include:

- Massachusetts: Complete legislative overhaul, several transportation agencies merged.
- North Carolina: Added NC Turnpike and NC Ports to DOT family; moving to more functional rather than modal approach

Question 8. What stage are you at with organizational change efforts?

**Figure 3: Stage of Organizational Change Efforts**



Total N = 26

Question 9. Who initiated your agency's organizational change activities?

**Figure 4: Source of Initiation for DOT Organizational Change**

	CEO/senior Agency Leadership Agenda	Transportation Commission or other Oversight Body	Governor or other Administration Agenda	State Legislature/ Statutory Requirement
Kansas & Massachusetts			X	
Delaware	X		X	
North Carolina	X	X	X	X
All other states	X			

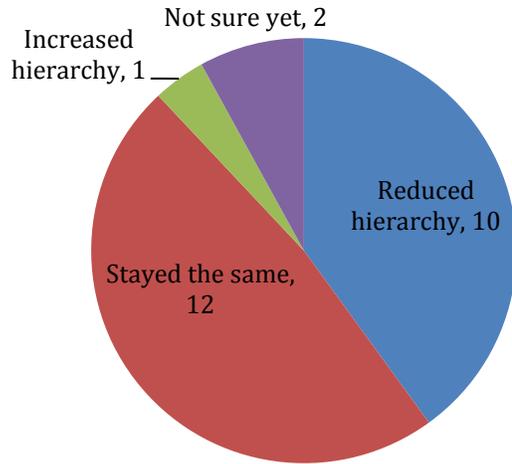
Total N = 25

**Comments:**

- *Kansas*: “The governor requested we conduct an internal review to identify efficiencies and potential operating cost savings. The results of this review may lead to organizational changes.”
- *Utah*: “Some pointed questions from legislators helped us move along the path of change.”

Question 10. What impact have reorganization efforts had, or will they have on your agency's reporting hierarchy?

**Figure 5: Impact of Reorganization Efforts On Hierarchy**



Total N = 25

**Comments:**

- Alaska: “Most of my changes are process changes rather than formal organizational structure changes. Others have to do with encouraging leadership development within the organization.”
- Hawaii: “Past reorganization efforts have been piece-meal and not coordinated from a program perspective.”

Question 11. In which business areas of your organization were, or will changes be made?

Figure 6: Areas of DOT Organizational Change by State

	Total States	Alaska	Arizona	Arkansas	Colorado	Delaware	District of Columbia	Florida	Hawaii	Idaho	Maine	Massachusetts	Michigan	Mississippi	Missouri	Hampshire	New York	North Carolina	Oregon	Rhode Island	South Carolina	South Dakota	Utah	Vermont	Wisconsin
All Business Units (Do Not Check Other Boxes)	7	X							X	X	X	X		X	X										
Performance measures	10		X		X	X							X	X				X		X			X	X	X
Planning	10		X			X		X					X				X	X	X	X	X			X	
Construction	9		X			X		X					X	X			X	X		X			X		
Maintenance & operations	9		X		X	X		X					X					X	X	X			X		
Multimodal transportation	9		X				X	X					X	X				X	X		X			X	
Traffic operations & ITS	8		X	X	X								X				X		X	X			X		
Design	7					X	X	X					X				X	X		X					
Public affairs	7		X	X									X	X			X	X			X				
Policy	7		X	X									X	X					X	X				X	
Programming & budget	7		X	X	X	X							X						X	X					
Environment	6		X			X	X						X										X		X
Districts/regions	6				X	X		X					X				X	X							
Finance	6				X	X							X					X		X	X				
Administration/HR	6		X		X			X										X		X	X				
ROW	5					X	X	X					X				X								
Freight	5		X					X					X					X			X				
Safety	4												X				X		X		X				
Legal	3			X		X	X																		
IT & other support services	3		X				X														X				
Government affairs	2		X											X											
Materials & research	2												X							X					
Motor vehicle, state police, or other non-highway functions	1		X																						
Other: Local Government Assistance	1																					X			
Other: Disadvantaged Business Enterprise	1																								X

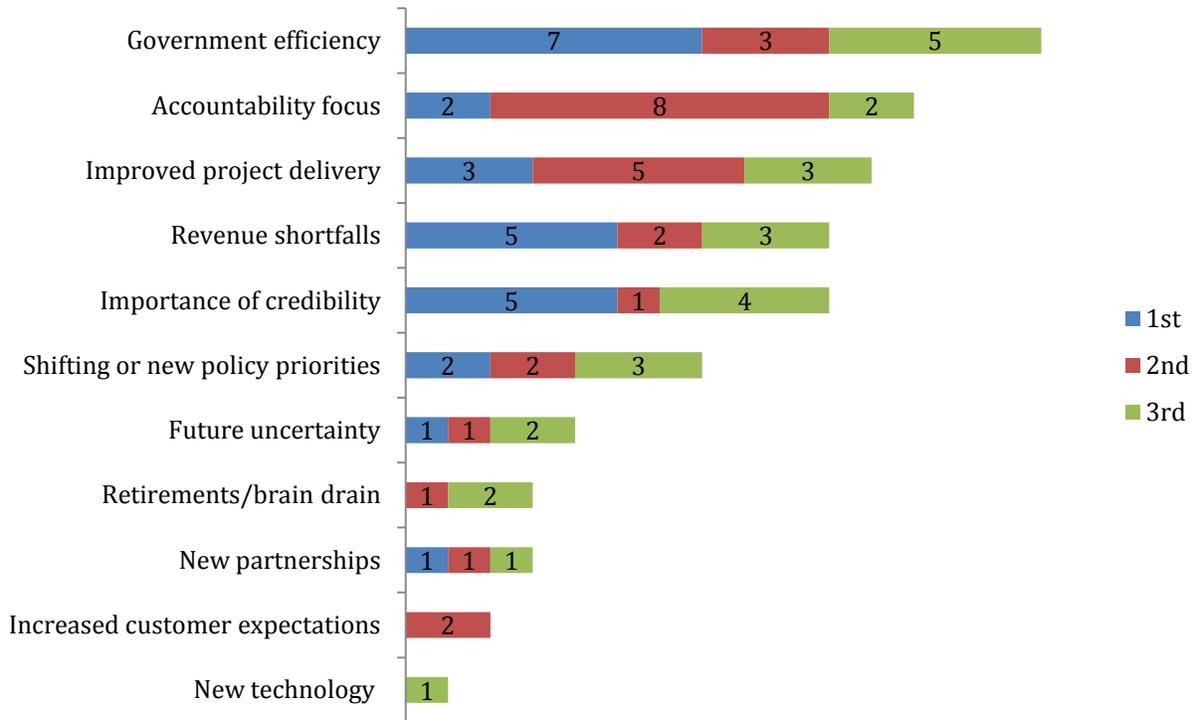
Total N = 24 (excluding Kansas: Not sure at this time – see #6)

Comment:

- Colorado: Major change will be to move business functions from engineering branches to Finance and Administration Divisions, and institute a COO structure. Also planning to strengthen Maintenance and Operations with higher level visibility and leadership.

Question 12. Choose the most important driving force or forces (up to three) for organizational change in your agency.

**Figure 7: Driving Forces for Organizational Change**



Total N = 26

**Comments:**

- *Utah*: “The description of some of these driving forces implies that something external to the DOT is a primary motivator for a DOT to consider change. While external forces are certainly real, achieving great performance cannot, in my opinion, be forced upon an organization by external forces and be completely successful. In our case, we want to be the best that we can be because that is entirely within our control, not because we are forced to become better.”
- *South Carolina*: “Governor's expectations; Legislature's/Commission expectations.”
- *Missouri*: “Staff reduction of over 1200 employees, elimination of over 740 equipment/fleet, elimination of over 130 facilities -- three of which were district offices -- all to save \$512 million over 5 years.”
- *Rhode Island*: “To eliminate barriers between functional units

*Question 13. In response to the driver(s) for organizational change you selected in the previous question, which of the following organizational change strategies is your agency either deploying or considering in response?*

**Figure 8: DOT organizational change strategies by state**

	Total States	Alaska	Anonymous	Arizona	Arkansas	Colorado	Delaware	Florida	Hawaii	Idaho	Kansas	Maine	Massachusetts	Michigan	Mississippi	Missouri	New Hampshire	New York	North Carolina	Oregon	Rhode Island	South Carolina	South Dakota	Utah	Vermont	Wisconsin
Reorganization of functions and responsibilities under major business units	20	X		X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X			X	X
Eliminate redundancies	19		X	X	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X		X		X	
Staff reallocation	18	X	X	X		X	X	X	X	X	X			X			X	X	X	X	X	X	X	X		
Increased outsourcing	10						X	X		X	X	X		X		X			X		X					
Decrease in level of vertical control/hierarchy (decisions made across organization)	10			X				X		X		X	X		X	X			X		X					
Use of internal task forces or working groups	10		X	X			X	X	X				X			X			X			X				
Workforce reductions	9			X			X	X		X		X		X		X	X							X		
Centralization of responsibilities	8	X		X				X	X					X					X			X		X		
Eliminate business unit/staff capabilities	7			X			X			X	X			X		X			X							
Privatization	7		X	X		X	X							X		X								X		
Divestiture of units/functions	7			X			X			X	X			X				X							X	
More direct reports to the CEO	6				X	X				X	X	X		X												
Decentralization of responsibilities	6									X						X	X		X						X	X
Use of external task forces or working groups	6						X				X					X			X					X		
Create new business unit/staff capabilities	5			X	X			X											X	X						
Decreased outsourcing	2			X																		X				
Fewer direct reports to the CEO	2						X						X													
Workforce expansion	1																								X	
Devolution to local government	1																					X				
Increase in level of vertical control/hierarchy (decisions funneled 'at the top')	1																					X				
Absorption of local government responsibilities/resources	0																									
Other: Increase span of control	1									X																
Other: Conduct manpower analysis in order to "right size" the organization	1																					X				
Other: Focus on business process improvement and accountability than wholesale reorganization	1					X																				
Other: Clarify roles and responsibilities between HQ and regional organizations	1	X																								
Other: Matrix organization	1																							X		

Total N = 25

Question 14. Have you reduced the number districts or regions as part of your reorganization?

Of the 25 states that responded to this question, only three states (Maine, Missouri & Utah\*) replied “yes.”

Of the 22 states that answered “no”, four states (Hawaii, Kansas, North Carolina & Vermont) provided comments indicating past or future consideration of this strategy.

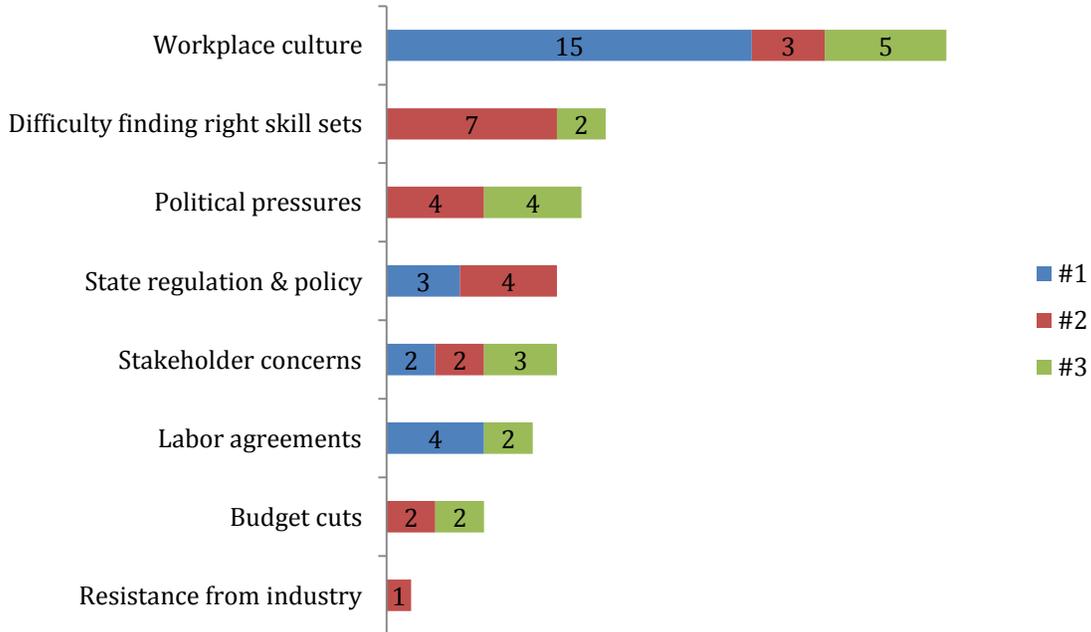
\*Utah Comment: “We had before a hybrid of 4 regions with three districts reporting to one very large region. We no longer refer to the districts separately.”

Question 15. Please describe anything not covered in the previous questions that was (or will be) unique about either the motivation for your reorganizational changes or the types of changes you are making?

- *Alaska*: “Most of my changes are process changes rather than formal organizational structure changes. Others have to do with encouraging leadership development within the organization.”
- *North Carolina*: “We are organizing ourselves around 3 major goals: safety, mobility, and infrastructure health across all modes. Everything we do organizationally is directed at improving performance on those goals.”
- *New Hampshire*: “Study the consolidation of Project Development to fewer Bureaus.”

Question 16. What are the main barriers to organizational change in your organization?

**Figure 9: Main Barriers to Organizational Change**



Total N = 24

Comments:

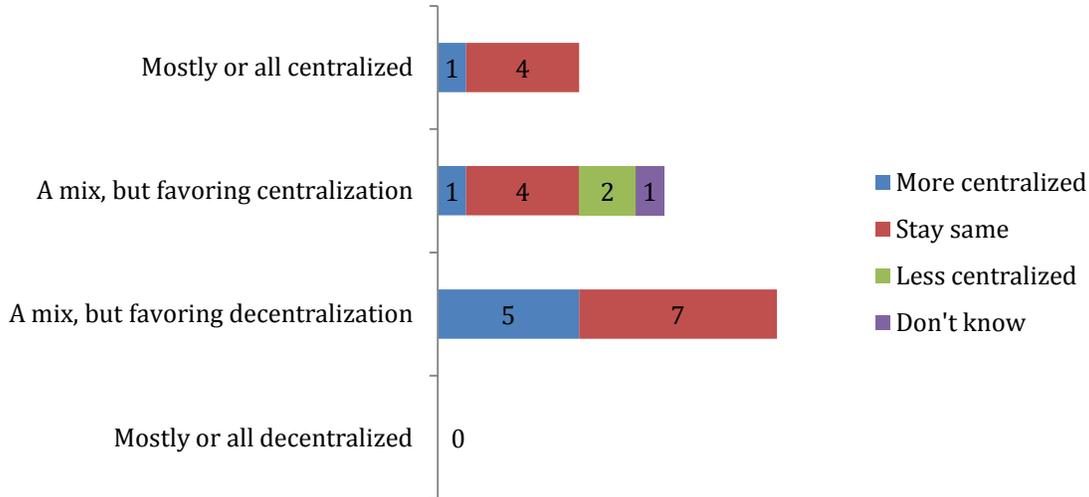
- *South Carolina*: added “inadequate resources” as a 4<sup>th</sup> barrier.
- *Utah*: “When we consolidated maintenance workers with construction workers we encountered significant resistance from workers on both sides of the equation. While we believe it will be successful, it is not something that can be left alone and expected to be successful. It takes day-to-day leadership buy-in and application.”

Question 17. Generally, how do you classify the degree of centralization in your agency's organization? (With respect to regional autonomy over project development and policy decisions)

&

Question 18. In the future, do you think your agency's organizational model will become more or less centralized?

**Figure 10: Current Status & Future Direction Regarding DOT Centralization**



Total N = 25

Comments:

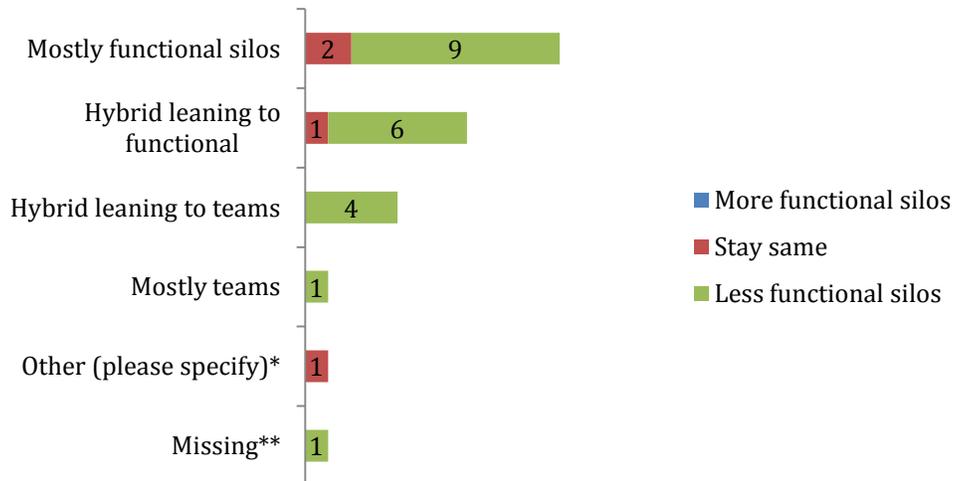
- *New York*: “Organization will remain decentralized, but consistent policies and procedures for project delivery and operations/maintenance will be adopted. Policy making which has been de-centralized will be centralized.”
- *Alaska*: “We are focusing on centralizing functions that are not core functions for our regions. I believe this will free them up to concentrate on the work we need them to do.”
- *Michigan*: “We have just added positions for better alignment and consistency from the field to the central office.”
- *Arizona*: “This centralization should not deter from District Engineers making necessary district decisions. The centralization will focus on budget, HR and IT issues.”

Question 19. Generally, to what extent is your agency's organizational model organized around functional areas of expertise versus around multidisciplinary expert teams that carry out specific projects or implement programs and priorities?

&

Question 20. In the future, do you think your agency's organizational model will emphasize functional silos more or less?

**Figure 11: Status & Future Direction Regarding DOT Functional Silos**



Total N = 25

\*See Utah's comment below.

\*\*One respondent missed Q19 but answered Q20.

**Comments:**

- *Utah*: “While many of our functions are silo'd such as planning, environment, design, right of way, construction, operations, and maintenance, we have implemented project management processes by which PM's draw resources from the various silos for their work. This insures consistency throughout the project development process and insures that commitments made are commitments kept. They also draw extensively from the private sector with about 80% of our engineering work performed by the private sector.”
- *Arizona*: “We are now mostly functional, but growing more towards teams.”
- *New York*: “We are moving in the direction of a hybrid, but mostly teams.”

21. What business areas of your organization are outsourcing or privatizing some or all of their responsibilities?

Figure 12: DOT Business Areas Outsourced or Privatized by State

State	Total states	Alaska	Anonymous	Arizona	Arkansas	Colorado	Florida	Hawaii	Idaho	Kansas	Maine	Massachusetts	Michigan	Mississippi	Missouri	New Hampshire	New York	North Carolina	Oregon	Rhode Island	South Carolina	South Dakota	Utah	Vermont	Wisconsin
Design	22	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Construction	19	X	X	X		X	X	X	X	X	X	X	X		X		X	X		X	X	X	X	X	X
ROW	15		X	X	X				X		X		X	X		X	X		X	X	X	X			X
Environment	15	X	X	X				X	X		X		X		X		X		X	X	X	X	X	X	X
Maintenance & operations	15	X	X	X		X	X	X	X	X	X		X			X		X	X			X			X
Legal	12	X		X	X				X	X	X				X		X		X	X	X	X	X		
IT & other support services	12	X	X	X				X	X		X	X			X		X	X				X			X
Traffic operations & ITS	11		X	X			X		X		X		X			X	X		X						X
Planning	11		X	X			X	X	X		X		X								X	X	X		X
Materials & research	8		X						X			X		X			X				X	X			X
Public affairs	5			X					X						X								X		X
Multimodal transportation	5								X		X	X								X				X	
Freight	4			X					X		X	X													
Safety	3								X		X	X													
Administration/HR	2								X						X										
Performance measures	1														X										
Government affairs	1			X																					
Finance	1	X																							
Policy	0																								
Programming & budget	0																								
Other: Surveys	2			X	X																				

Total N = 24

Question 22. If you are privatizing any activities, please briefly describe what you are doing.

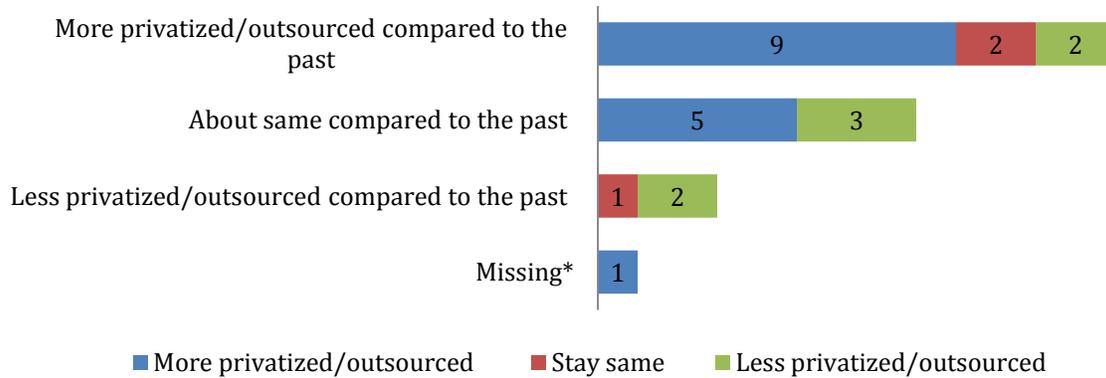
- *Mississippi:* Using consultants to bridge the gap while training young engineers.
- *Oregon:* Roughly 30 percent of the A&E work is outsourced. One-hundred percent of the heavy highway construction is done by the private-sector. ORDOT has one maintenance pilot project currently engaged.
- *Colorado:* Pretty standard privatization of design and construction currently. May have more O&M privatization with P3's.
- *Idaho:* Staffing for about 60% of normal program. Consulting the remaining 40%.
- *Arkansas:* Outsourcing is only used to supplement existing staff in times when the workload peaks. An Interstate Rehabilitation Program using GARVEE bonds was just approved, which will almost double our construction program over the next few years.
- *Michigan:* We are looking at maintenance services and another pilot for engineering services and management of a portion of the state road network.
- *North Carolina:* Very little true privatization; more outsourcing with state oversight; looking for privatization opportunities to generate revenue.
- *Rhode Island:* Most design work is done by consultants. We will be increasing out sourcing of some more maintenance activities.
- *Utah:* Because our work comes in waves, we attempt to staff the organization to handle the valleys of our work load. Anything above the valley is farmed out if at all possible such as design and construction engineering, right of way work, legal, and environmental. Public involvement and outreach is almost always outsourced. Some of our planning projects are also staffed with consultants. We like to hire the best consultants, work them like dogs, and then put them away "wet." We assume they have unlimited resources and therefore demand unlimited production from them. They are very good at meeting our needs. We have had some outsourcing of our maintenance activities with some success. Have not outsourced an entire roadway or region of roadways to the private sector although we keep toying with the idea.
- *Arizona:* In areas where the Department does not have sufficient resources, time or expertise, we are outsourcing.
- qualified staff.

Question 23. Is your agency privatizing or outsourcing more or less of its work to other public or private entities today compared to the past?

&

Question 24. In the future, do you think your agency will privatize or outsource more or less work than today?

**Figure 13: Status & Future Direction Regarding Privatization/Outsourcing**



Total N = 25

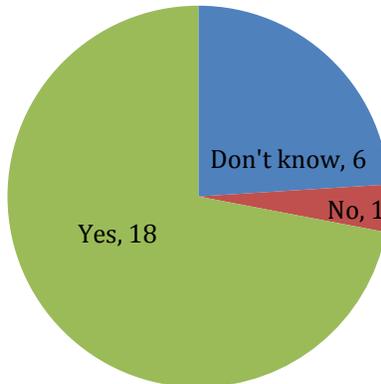
\* One respondent missed Q23 but answered Q24.

Comments:

- Florida: “We already privatized 80% but we will be getting closer to 90%.”
- South Carolina: “Intend to reduce reliance on consultants. May outsource Interstate Maintenance.”

Question 25. Do you plan to make organizational changes in the future?

**Figure 14: Planned Future Organizational Change**



Total N = 25

**Comments:**

- *Arizona*: “Yes. As we continue to review our business model in light of current demands, we intend to stay flexible and adjust the organizational model accordingly.”
- *Michigan*: “We just did a significant reorganization, I'm sure we will have to tweak it at some point.”
- *Maine*: “You always want to be looking at your organization, and make changes necessary to work in the moment.”