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# **Transportation Strategic Management and Operations Advisory Task Force Report**

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**January 23, 2009**

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## Minnesota Transportation Strategic Management and Operations Advisory Task Force

January 23, 2009

The Honorable Tim Pawlenty  
Governor, State of Minnesota  
130 State Capitol  
Saint Paul, Minnesota 55155

The Honorable Senator Steve Murphy, Chair  
Senate Transportation Committee  
Minnesota Senate  
Capitol Building, Room 325  
Saint Paul, Minnesota 55155

The Honorable Rep. Bernie Lieder, Chair  
House Transportation Finance Committee  
Minnesota House of Representatives  
423 State Office Building  
Saint Paul, Minnesota 55155

The Honorable Rep. Frank Hornstein, Chair  
House Transportation Policy Committee  
Minnesota House of Representatives  
437 State Office Building  
Saint Paul, Minnesota 55155

Dear Governor Pawlenty, Senator Murphy, and Representatives Lieder and Hornstein:

The Transportation Strategic Management and Operations Advisory Task Force was created by the 2008 Minnesota Legislature to provide advice on management and operations strategies that will improve efficiency in transportation. A letter on the preliminary efforts of the task force was sent to you on December 15, 2008. The enclosed report completes the work of the task force and presents the task force assessment that identifies strategies and makes consensus-based recommendations to improve efficiency in state transportation construction and maintenance projects and management of state transportation infrastructure.

We, along with other members, would be pleased to discuss the work of the task force in any setting or forum you feel appropriate.

Sincerely,

Handwritten signature of Clay Parker in black ink.

Clay Parker, Co-Chair  
Governor's Private Sector Representative

Handwritten signature of Adam Duinick in black ink.

Adam Duinick, Co-chair  
Senate Organized Labor Representative

Enclosure

c: Senate Majority Leader Sen. Larry Pogemiller  
Senate Minority Leader Sen. Dave Senjem  
Speaker of the House Rep. Margaret Anderson Kelliher  
House Minority Leader Rep. Marty Seifert  
Thomas K. Sorel, Commissioner, Minnesota Department of Transportation  
Members, Transportation Strategic Management and Operations Advisory Task Force

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# Executive Summary

## Transportation Strategic Management and Operations Advisory Task Force

The Transportation Strategic Management and Operations Advisory Task Force was created by the 2008 Minnesota Legislature. The focus of the task force is to “advise the Governor and the Legislature on management and operations strategies that will improve efficiency in transportation.” This report presents the task force assessment that identifies strategies and makes recommendations to improve efficiency in state transportation construction and maintenance projects and management of state transportation infrastructure.

The task force included representatives from the Minnesota Department of Transportation, Metropolitan Council, construction industry, academia, private sector, Minnesota House of Representatives, organized labor, and the Minnesota Senate. The Department of Administration provided task force support and the Management Analysis and Development group facilitated task force meetings and report preparation. The Department of Transportation also maintained online information regarding task force meetings and information at [www.dot.state.mn.us/updates/transportationtaskforce.html](http://www.dot.state.mn.us/updates/transportationtaskforce.html).

## Task Force Recommendations

Through a facilitated process the task force developed the following recommendations. These conclusions and recommendations were reviewed by the task force, and it proposed the final product be included in this report by informal consensus.

### Primary Recommendations

The task force identified two primary recommendations.

#### 1. Planning and Policy Making Perspective – Validate Statewide Interests in MnDOT Regional Structure and Allocation Process

Of all the areas the task force discussed, the members rated changes to the long-time regional structure and historical funding and resource allocation approach as having the highest potential for improvement in the efficiency and effectiveness of MnDOT. There was extensive discussion that repeatedly returned to the question of whether the current decentralized MnDOT structure and the allocation methodology being used has achieved optimal results for the state. Is the decentralized MnDOT structure that has served the state well for the last several decades the most appropriate for MnDOT in the coming decade? Is the status quo equilibrium among stakeholder interests that has developed around this structure been a barrier to the flow of funds and resources to the highest needs in the state?

While the task force by no means felt it had the representation, expertise, or information to determine that a more centralized approach to organizational funding structures be undertaken, members did note that the topic resurfaced numerous times. The task force recommends that the MnDOT Commissioner and the Legislature conduct a review to

either satisfy themselves that the current decentralized organizational and funding structures are optimal for the future or, if they are not, outline those structural aspects which should be changed.

To that end, the Transportation Task Force recommends that a work group be developed out of the MnDOT Commissioner's Office to review the allocation process, analyze its current strengths and deficiencies, and develop a plan of action to implement their findings to provide a fair and efficient process. The work group would act in cooperation with the Minnesota House and Senate Transportation Committees. The Commissioner of Transportation, in consultation with the Chairs of the respective legislative committees, would select individuals to sit on this work group from MnDOT staff, other agencies, private sector representatives, and other key stakeholders as deemed necessary.

The task force recommends the work group focus on the MnDOT structure as well as how this affects the allocation of funds and resources. In addition to review of whether structural organizational changes could enhance operational efficiency and effectiveness, their charge will be to determine who has or who should have the authority on making allocation decisions and how that decision process should operate. It was noted in a task force meeting that the Commissioner of Transportation currently has much of the authority and background to make changes in this area.

Further, the task force recommends that the work group look at and resolve issues including:

- Validation of the district office structure including appropriateness of the current eight (8) districts and the current district boundaries.
- The need for and benefits of a more centralized focus.
- Using evidence based, data driven-processes to reach decisions, including consistency between district project goals and what each district funds.
- The appropriate structure for allocation of funds to provide the best possible transportation system in Minnesota. Key areas the task force recommended being discussed in the structure include:
  - Allocation of resources (including staff, machinery, and funding) to do the work
  - Appropriate authority (including the balance of power among the parties and the span of control)
  - Challenging the status quo of how it has operated in the past including behaviors, overlap or duplication of services/tasks, and assessing the number of districts included in the funding allocation process

The timeline suggested by the task force is as follows:

- Select and hold the first meeting of the work group in early 2009 (January or February).
- Commissioner of Transportation, with input from the work group, submits potential areas of legislation, if any is needed, to implement the topic to the Legislature by February 28, 2009.
- The Commissioner of Transportation submits a progress report to the Legislature and Governor by May 1, 2009, on progress of the work group.

- Periodic updates of the work group are submitted to the Legislature and Governor by November 1, 2009, and on this date in subsequent years if the task force has not completed its work.

## **2. Foundational Areas to Ensure Change – Develop a Continuous Improvement Process in MnDOT**

A second critical area task force members identified that cuts across most of the other task force focus areas was the need to imbed a greater cultural drive toward continuous improvement, particularly in the development and use of systematic cost-based decision making. The members noted many examples of excellent progress in the use of metrics and data driven decision making. However, it was also noted that where cost is part of the decision process, systemic barriers and cultural resistance have resulted in less organizational drive for continuous improvement compared with high performing private businesses. The taskforce also perceived a higher risk of failure for individual improvement projects that try to challenge the cultural norms than would be the case in an organization that embraces best practices in continuous improvement.

The Transportation Task Force recommends that MnDOT implement a continuous improvement process (i.e. Six Sigma, Lean) throughout the organization. The task force members stated that MnDOT should be congratulated for the progress it has made so far in incorporating innovation and measurement into its major projects but this work should be encouraged and expanded.

Further, the task force recommends that MnDOT work with a private sector partner to analyze and improve the use of metrics in MnDOT. During a task force meeting such an offer was made, and MnDOT and the offering party will follow up. The task force identified a series of cost accounting or cost efficiency areas on which MnDOT should focus. They included:

- Cost estimates of a project versus actual project cost
- Data to allow for district-to-district comparisons, including cost comparisons, project comparisons, and success in meeting district or statewide goals
- Whether capital investments are achieving or will achieve MnDOT's strategic objectives

Additionally the task force recommended the following steps:

- Strategic high level objectives are established first, followed by the discovery of the key variables that drive these objectives.
- Processes are put in place to drive variables in the desired fashion.
- Metrics are established to track the variables. The organization as a whole has to have agreement on the objectives and key variables to be effective. This takes time, effort and processes.

## **Additional Recommendation**

The task force discussed and agreed on an additional recommendation.

### **3. Practice and Implementation Perspective – Establish and Use Best Practices for Business Operations**

The Transportation Task Force recommends that, while acknowledging design-build contracting and construction is not appropriate for all MnDOT projects, it is apparent that the agency has established a body of knowledge on the project management processes and practices that design-build uses and should utilize this knowledge whenever appropriate. Much of this learning can be used to improve overall MnDOT project management practices, regardless of the contracting or construction method.

Further, the task force recommends that MnDOT leaders create a formal mechanism for:

- Addressing internal structural barriers to implementing innovative project management approaches.<sup>1</sup> For example, the suggestion that resources are a barrier to greater use of design-build; the resource issue suggests skill constraints rather than resource numbers.
- Cultivating innovative best practices to reward success and to better manage and learn through failure.

Additionally, members noted that MnDOT should consider the merits of establishing an internal “design-build” group or potentially utilizing its existing Office of Project Scope and Cost Management to capture the best aspects of design-build but without the contractual downsides that exist on many projects. The success and control of such an approach may require new reward mechanisms not available to public employees. They mentioned that with a more creative approach, the potential benefits increase but so do the needs for new governance approaches. Task force members said that project accounting and data integrity are key enablers.

### **Other Ideas for Consideration**

Besides those listed above, several suggestions for recommendations were offered by task force members. Because of a lack of time, these items were not fully considered by the task force as a whole and are not considered formal recommendations. However, members noted they did not want to lose the good ideas that were offered in these suggestions for recommendations. The full text of these suggestions is in the body of the report.

- Provide financial accountability – address the key gaps in the current accounting system and accounting process
- Strengthen leadership in program management and development – ongoing support of current MnDOT actions to improve project scoping, cost estimating, and cost management.
- Authorize MnDOT to implement pilot projects using different contracting methods and purchasing options.

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<sup>1</sup> Office of Project Scope and Cost Management

# Introduction

The Transportation Strategic Management and Operations Advisory Task Force was created by the 2008 Minnesota Legislature in Chapter 152, Article 6, Section 9 (see Appendix for text of legislation). The focus of the task force is to “advise the Governor and the Legislature on management and operations strategies that will improve efficiency in transportation.” A report to the Governor and the Legislature was requested by December 15, 2008.

The task force developed an assessment that identifies strategies and makes recommendations to improve efficiency in state transportation construction and maintenance projects and management of state transportation infrastructure. In developing the assessment, the task force considered best practices in business and construction management; efficiency concepts in academic, business, or other environments; and the effect of statutory requirements on transportation efficiency. The task force also assessed the project development process, cost estimation, bidding and award of contracts, contract management, cost overruns, and construction project oversight by the Minnesota Department of Transportation (MnDOT).

The Minnesota Department of Administration (Admin) assisted MnDOT in supporting the Transportation Task Force. Admin also contracted with Management Analysis & Development (MAD) a division of Minnesota Management & Budget, to facilitate the meetings and report preparation of the task force.

The Transportation Strategic Management and Operations Advisory Task Force includes the following members:

- Commissioner of Transportation or Designee: Bernie Arseneau
- Chair of Metropolitan Council or Designee: Arlene McCarthy
- Governor’s Construction Industry Representative: Larry Lair
- Governor’s Academic Representatives: Dr. Jeanne Boeh, Laura King, Dr. Svyetlana Madzar
- Governor’s Private Sector Representatives: Clay Parker, Tom Hesse (for Darwin Voltin), Jeffery Gale
- Members of the House of Representatives: Representative Melissa Hortman, Representative Frank Hornstein
- House Organized Labor Representative: Robert Hilliker
- Members of the Senate: Senator Kathy Saltzman, Senator Dick Day
- Senate Organized Labor Representative: Adam Duininck

# Methodology

The Transportation Strategic Management and Operations Advisory Task Force met four times from October through December 2008. This report is the result of task force deliberations. The meetings were open to the public, and additional people attended to listen to the discussion. The task force, based on the legislation, developed the following purpose and scope.

## **Purpose**

The 2008 Minnesota Legislature established the task force to advise the Governor and the Legislature on management and operations strategies that will improve efficiency in transportation.

## **Scope**

The task force must provide an assessment that identifies strategies and makes recommendations, including any proposals for legislative changes, to improve efficiency in:

1. State transportation construction and maintenance projects, and
2. Management of state transportation infrastructure.

In developing its assessment, the task force may consider best practices in business and construction management; efficiency concepts in academic, business, or other environments; and, how requirements under law affect transportation efficiency. The assessment provided by the task force must include, but is not limited to, analysis of the project development process, cost estimation, bidding and award of contracts, contract management, cost overruns, and construction project oversight by the Department of Transportation.

To accomplish the scope, co-chairs Clay Parker and Adam Duininck were selected, and the task force developed a work plan for:

- Building common knowledge of transportation processes among task force members,
- Identifying best practice options, and
- Reviewing, discussing, and selecting options for recommendations in the task force report.

To identify the various options for recommendations, the members were asked to identify the critical ideas or recommendations they would individually like to see the task force present to the Governor, Legislature, and MnDOT on improving efficiency and effectiveness in the management and operation of transportation in Minnesota. The individual ideas were shared and grouped into common themes. The task force between meetings ranked these areas and the individual ideas based on ease of implementation and ability to impact the organization. See Appendix D for the themes and their rankings. As members reviewed and discussed the rankings, they tied together some of the themes into four focus areas. The task force developed recommendations around the four focus areas.

A letter was sent to the Governor and legislative leaders noting the progress of the task force on December 15, 2008. See Appendix B for the letter and enclosure. It noted the task force would meet one more time in January to finalize their conclusions and recommendations and provide a report back to the policymakers by the end of January 2009. The task force is scheduled in legislation to disband by May 31, 2009.

## **Presentation Topics**

The task force listened to and held discussions around a series of topic areas presented by MnDOT officials. The topic areas were intended to provide a common level of transportation operation and management knowledge to task force members. The members could then ask questions, discuss the topic, and develop recommendation options for consideration by policymakers. The presentation and discussion around these topics helped the task force members to identify recommendations.

Following is a brief summary of each subject presented during the October and November meetings of the task force. Each summary is labeled according to its agenda title for each meeting. Further details on each summary are also available through the task force website – [www.dot.state.mn.us/updates/transportationtaskforce.html](http://www.dot.state.mn.us/updates/transportationtaskforce.html). The initial presentation at the October meeting was an overview of key transportation management topics.

### **MnDOT – Transportation Overview**

Bernie Arseneau presented an overview of the department and transportation in Minnesota. The presentation also included details on MnDOT's key responsibilities, overall budget and organizational structure. State maps with MnDOT district boundaries were also distributed to the task force to further illustrate the agency's decentralized operations.

### **Budget/Funding Process**

Scott Peterson explained the department's funding and budgeting process. Funding is received from various state and federal revenue sources and placed in the Highway User Tax Distribution Fund. Budgets are based on funding projections, investment priorities and performance measures related to preservation, safety and mobility. Over the past two years, the opportunity for increased transportation funding was made possible through 100 percent dedication of the motor vehicle sales tax to transportation and a \$.05 increase in the motor fuel tax. However, decreases in motor vehicle sales and fuel consumption have significantly limited the opportunity for additional revenues from these sources.

### **Project Development and Construction Process**

Mukhtar Thakur and Tom Ravn provided an overview of the highway project development and construction management processes. The project development process begins with planning, followed by environmental review, scoping, preliminary design, final design, right of way acquisition and then letting. During each of these phases, public involvement plays a significant role in developing a project. Municipal consent also represents a critical decision point in the development process, without which the project

may not proceed. Following letting, the construction process begins pre-construction meetings to discuss staging, mitigating traffic impacts and building the project. During construction, weekly meetings are typically held with the contractor to discuss and manage progress. Inspection and monitoring materials, schedule, labor and safety are some of the other activities performed during construction. Supplemental agreements or change orders may also be administered to address issues such as design errors, local partners with additional changes, or utility coordination. MnDOT has also initiated several process improvement efforts in recent years to streamline project delivery – value engineering, scoping and cost estimating improvement, public involvement, and training.

### **Maintenance Process**

Steve Lund, Bev Farragher and Dave Solsrud explained the department's operations and maintenance role. A video on maintenance products and services was shared with the task force. Products and services include snow removal, guard rail repair, signing and pavement marking maintenance, and pothole patching. Extensive performance measures have also been established for maintenance, and they relate to snow and ice removal, striping, signing, drainage, and fleet management.

### **MnDOT Overall Policy and Procedures**

Bob Hofstad presented the department's investment priorities and the process for selecting projects. The process begins with the State Transportation Plan that establishes overall direction for transportation in Minnesota. Projects are then identified in longer-range Highway Investment Plans by region and programmed into a four-year State Transportation Improvement Program from where they initiate construction. Priorities such as preservation, safety and mobility form the basis of a formula for funding distribution. Project selection is also based on input from a network of area transportation partnerships comprised of Mn/DOT and local transportation stakeholders. Mark Larson further explained the department's performance measures. Initial measures were established in the 1990s, and today measures are incorporating transparency and accountability. Measures are reported on annually and quarterly to internal management groups as well as the Governor's Office. The department also publishes an annual Results Scorecard on performance that is made available to the public.

### **Case Studies – St. Croix River Bridge, Crosstown, ROC52 and I-35W Bridge**

Nick Thompson, Tom O'Keefe and Jon Chiglo presented the background on four visible and often controversial projects. Planning for a new St. Croix River Bridge crossing began in the 1950s. Stakeholder, environmental and funding challenges have delayed the project for many years. Today, project funding has been identified, and bridge construction is targeted to begin in 2013.

Project planning and scoping discussions for the Crosstown project began in the 1960s and has also been plagued by similar political and financial restrictions. Getting municipal consent from the cities affected by this project has been particularly challenging, and the delays led to significant construction cost increases. The project finally began in 2007 and is scheduled for completion by 2010.

ROC52 project planning began in the 1970s, and an environmental impact statement for the project was approved in 1996. In 2000 an economic impact study was done to assess the impacts of a five-year construction project on area businesses. In 2001 it was decided to complete the project using design-build. The project began in November 2002 and was fully open to traffic again in August 2005 – more than two years less than the original schedule projected.

The I-35W Bridge project was let in September 2007, used design-build and was reopened to traffic in September 2008 – just one year after the bridge collapsed. Construction staging, communication, alternate technical concepts, risk and safety management, critical path scheduling, and quality management all contributed to the success of using design build for ROC 52 and the I-35W Bridge.

The November meeting focused on providing further information regarding specific topics noted during the October meeting.

### **Best Practice Ideas from the I-35W Bridge and Design Build**

Although it was emphasized that design-build is best for certain types of projects, there are practices more directly associated with design-build that can be applied to other project delivery methods. Jon Chiglo returned to provide further insight on what aspects of design-build could be applied to other project delivery approaches. Those practices included utilizing industry knowledge, expertise and cost management skills; applying concepts like lump sum pricing or alternate technical concepts to minimize project cost overruns; using design sequencing to accelerate project delivery; and leveraging innovation with performance specification flexibility.

### **Scoping and Cost Estimating Task Force**

Mike Ginnaty explained MnDOT's effort to improve project scoping, cost estimating and cost management. The effort began in October 2006 and was influenced by Report 574 released by the National Cooperative Highway Research Program. The report – "Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction" – presents approaches to cost estimation and management to overcome the root causes of cost escalation and to support the development of consistent and accurate project estimates through all phases of the development process, from long-range planning, through priority programming, and through project design. The department's effort continued through four phases, the last of which will be completed by the end of 2008. Policies, implementation plan, reference manual and training were developed during the effort to promote the new scoping and cost estimating processes. In July 2008, the department also created an Office of Project Scoping and Cost Management to maintain emphasis on the effort and expand improvements in the areas of performance measures, estimating processes for right of way and utilities, and tracking.

### **Review of MnDOT Peer States – Municipal Consent**

Betsy Parker provided an overview of Minnesota's municipal consent law and the department's policy. There is a false perception that Minnesota is one of very few states with municipal consent laws. Most states have local inclusion laws to ensure public involvement in major road projects. Challenges to achieving municipal consent most

often arise when land use and economic development plans don't align with transportation goals or when elected officials change, and consent may be granted or revoked. Gathering information on local inclusion policy and experiences among other states is also challenging because of differences in terminology. It is generally believed that the current process fits with the project development process. However, the current municipal consent policy does not address the often conflicting beliefs about the role of a transportation project.

### **Review of MnDOT Peer States – Decentralized Funding**

Abby McKenzie presented further information regarding MnDOT's decentralized funding process. MnDOT established its decentralized regional process in 1994. Area transportation partnerships (ATPs) were also established to integrate regional transportation priorities based on broad policy guidance from the State Transportation Plan. There are benefits and challenges with the ATP process. The process is generally viewed as transparent, accountable, and representative of unique regional needs. In contrast, the process can also lead to inconsistencies among the regions' investment approaches. It can also make it difficult to deliver large or multi-district projects. Most other states use a more centralized process. Brief summaries of the centralized approaches used in Texas, Wisconsin, Kansas, Oregon and Ohio were presented to the task force for comparison.

### **Purchasing and Bidding Process**

Tom Ravn returned to provide additional information regarding the competitiveness of bids received through the department's construction bid and letting process. A summary of bids received across several cost categories was shared with the task force. Bids received in 2008 were, on average, about 4 percent below the engineer's estimate. When costs come in over 10 percent of the estimate, MnDOT will investigate by contacting contractors to better understand what drove their estimates. Generally, road construction projects will receive an average of three bids per project while commercial construction typically receives an average of six.

### **Aspects of Financing**

Scott Peterson also returned to present more information about the department's financial integrity gold standard project. The FIGS project is being considered in preparation for the transition away from MAPS – the statewide accounting system – and to address the increasingly complex financial environment of transportation funding. To illustrate the level of complexity, the following points were presented about the department's financial activity: about \$2.2B in annual spending, over 3.5M transactions, 450 plus federal funding programs, 500 federal projects closed annually, and \$150M annual accounts receivable collections. The department also has 10 funds, 342 appropriations, 769 allotments, 15,012 organization expense budgets, 46,901 active jobs, and 669 activities. Successful implementation of FIGS will require a change in culture and business practice, leadership support, department-wide cooperation and consistent oversight.

# Areas of Focus

The Transportation Strategic Management and Operations Advisory Task Force had a very broad scope and a limited amount of time to complete its task. The task force, through the presentation by MnDOT staff, quickly gained a common understanding of the management and operations of transportation in Minnesota. During the presentations and ensuing discussions, members probed for ways to improve the efficiency and effectiveness of the department. Through a facilitated process, the task force identified four areas of focus to develop conclusions and recommendations.

## Overview

The task force talked about the need for MnDOT to review and focus on three areas: how it prioritizes, estimates, and ultimately delivers transportation projects. It became clear that in these areas a drastic change of the process was not needed because, it was noted, MnDOT was doing a number of things very well. However, the department can learn from these successes and work to incorporate them throughout the organization. Further, the task force noted, MnDOT should understand this is a continual process and not a one-time “fix.” The task force further noted that to strengthen this learning throughout the organization, MnDOT needs leadership to set the overall tone and framework, management to oversee the implementation, and a process framework to provide consistency and the ability to track whether actions have improved the outcomes.

Further, the task force noted that MnDOT should “tell its story” better to the policymakers, to the public, and to itself. It should be more transparent and forthcoming with identifying its successes, issues, and operations.

The presentations, their following discussions, and the specific request for ideas generated a series of options for MnDOT to consider. The task force discussed these options, grouped them into common themes, and analyzed them. The analysis focused mainly around how easy they would be to implement and what impact they would have on MnDOT’s work. (See Appendix D for the results of a task force member survey on this analysis.) From this analysis the members decided to focus on four broad areas to develop their conclusions and/or recommendations.

## **Area One: Planning and Policy Making Perspective – Validate Statewide Interests in Allocation Process (review centralized versus decentralized process)**

Minnesota uses a decentralized process for distributing highway funds. The decentralized Area Transportation Partnerships (ATP) is designed to integrate regional transportation priorities with broad policy guidance from a statewide perspective. Members of the task force raised concerns about whether this structure focuses too much at the local level and not enough at the statewide level.

Task force members raised concerns about the limited understanding of this process outside of MnDOT, leaving stakeholders with a low comfort level or trust that the allocation process is the best use of resources. They discussed the need to better

understand the process and its organization structure and how changing it could improve or hinder transportation effectiveness in Minnesota.

Further, task force members raised questions if the decentralized system, given the limited amount of funds available to meet a variety of needs, was the most effective and efficient process for funding and operating a transportation system. They also noted that statewide priorities could be overshadowed by this process and discussed if Minnesota would end up with a patchwork transportation structure based on region as opposed to a consistent, statewide transportation network.

### **Area Two: Practice and Implementation Perspective – Establish and Use Best Practices for Business Operations (Maintenance and Construction)**

The recent Interstate 35W bridge rebuild in Minneapolis, along with other recent projects throughout Minnesota, used a design-build concept rather than the more traditional design-bid-build. Design-build is a construction project delivery system where, in contrast to design-bid-build, the design and construction aspects are from a single source, and that source has absolute accountability for both design and construction of the project. This system is used to minimize the project risk for the state and to reduce the delivery schedule by overlapping the design phase and construction phase of a project. The task force was interested in whether the best practices from the design-build concept could be incorporated into other projects at MnDOT. In one of the presentations, it was summed up that design-build best practices can:

- Allow MnDOT to take advantage of industry knowledge, expertise, and cost management skills;
- Minimize project cost and cost growth;
- Accelerate project delivery; and
- Introduce innovation.

While it was noted that design-build, and the best practices gathered from its use, does not work for all projects and all situations, task force members pointed out it has significant value in getting MnDOT to think differently about how it does things and to open up the culture to using various best practices on a wide range of topics from bridge constructions to management operations to financial planning.

Broader than just design-build, task force members noted that the identification and use of best practices throughout MnDOT helps to ensure the best return on investment of the new, historic investment in transportation brought about by the Legislature's action in Chapter 152. Further, it was noted that the use of best practices, in general, combined with focusing on improving effectiveness and efficiency will bolster public trust and confidence in the organization.

### **Area Three: Develop and Use Data-Driven Decision-Making Processes**

For this area, the task force combined three concepts focusing on the development and use of data in MnDOT's critical processes. The three concepts are: establish a culture of evidence, provide financial accountability, and strengthen leadership in program management and development. Because each area offers a unique perspective, they will be reviewed separately, but the recommendations and actions will be identified collectively.

#### **Establish a Culture of Evidence**

Task force members asked a series of questions probing if projects are chosen wisely, if there is accuracy of cost estimation, and if delivery of services meets established targets. They were looking for answers on MnDOT operating as effectively and efficiently as possible and the department having data to justify its actions. It was noted that the data was limited for answering some of these questions. This led members to look for ways to develop more and better data collection and the ability to transfer data into useable information, then using that information to make good informed decisions. Having these options in place will be helpful in arriving at data-driven decisions and drive best practice options throughout the organization. Further, members stated that the use of clear metrics or data to make decisions creates a more positive impact on employees. They noted, with the use of data, staff have a clearer understanding of what needs to be accomplished and for what reasons.

#### **Provide Financial Accountability**

MnDOT has embarked on a project to craft a financial management system that purports to result in maximum efficiency and accurate reporting of public funds. The project FIGS (Financial Integrity Gold Standard) is just getting underway and has laudable outcomes (conduct and record business in the most efficient, accurate, and transparent manner; financial information that is timely, accurate, verifiable, comparable, and consistent; and, establishes a foundation for effective financial management in MnDOT) but is currently overwhelmed by complexity and inertia.

The replacement of the current statewide accounting system is imminent; therefore, many of these issues will need to eventually be addressed. As noted in the presentation on the topic, it will need help from all areas inside MnDOT. The specific needs identified by the presenter include:

- change in the culture and business practices,
- strong leadership from senior management and policymakers,
- agency-wide cooperation,
- consistent, long-term oversight, and
- periodic review of its progress.

The task force discussed that the benefits from improving the financial management system are great, but the project needs focus and commitment from the agency.

### **Strengthen Leadership in Program Management and Development**

MnDOT is working with a Scoping and Cost Estimating Task Force and has recently established an Office of Project Scoping and Cost Management to help in better managing project costs and scope. The effort has recently established policies on:

- cost estimating;
- uncertainty, risk, and contingency planning;
- cost estimation communication;
- project cost management; and
- program cost management.

The task force discussed a continuation and strengthening of efforts in this area.

The primary objective of this whole area and all three of the concepts is to provide accountability to the taxpayers of Minnesota. MnDOT has identified and is working on a number of its basic systems and processes to improve the data collected and the information produced from that data. Task force members suggested that MnDOT continue these efforts to completion in order to generate the desired impact. Members noted that now is a critical time to focus on and complete the work in these areas because of greater competition for resources and the increase in the expectation of stewardship of those resources. It was noted that this should lead to an improved performance management system in MnDOT.

### **Area Four: Foundational Areas to Ensure Change**

For this area, the task force combined two areas on staffing and leadership in MnDOT operations. The two concepts are development of a human resources plan and employ leadership-sponsored change management. As before, each area offers a unique perspective; they will be reviewed separately but the recommendations and actions will be identified collectively.

#### **Develop a Human Resources Plan**

While it was noted that MnDOT has a hard working and dedicated workforce, task force members discussed that staff are not best positioned to carry out some of the critical tasks of the department. It was noted by task force members that staffing levels need to be sufficient to meet demand and that staff need to be involved in and buy into the efforts to improve the operation of MnDOT. Specifically, task force members stated, a staffing plan would determine what needs to be done and identify the critical skills necessary to do the work. Further, it was noted, a plan provides the information and confidence to manage third-party spending.

#### **Employ Leadership-Sponsored Change Management**

Task force members discussed that MnDOT leadership needs to build the culture of a learning organization and work to instill the concept by focusing on using best practices and tying actions to evaluation of performance and outcomes. Task force members noted that MnDOT leadership needs to better balance the volatile fluctuations from year-to-year in highway projects and the amount of staff needed to do the work. Further, it was mentioned that the changing demographics of Minnesota's workforce will require MnDOT to change its methods for recruiting and operating the transportation system in Minnesota.

## **Other Areas Considered by the Task Force**

### **Reexamine Process on Approval from Outside System (relationships)**

Task force members noted that a number of factors from outside the state's transportation system have an impact on both cost and length of time for transportation projects. The three most critical of these are municipal consent (the agreement of a local municipality prior to the initiation of a transportation project through its community), the moving or altering of utility services (electrical and communication wiring, sewer lines, etc.), and purchase of right-of-way (or land) for the transportation pathway and adjacent infrastructure. Many of these activities happen during the planning phase of a project, but if issues arise, can delay the start of a project and potentially dramatically increase the cost of a project. The task force noted that MnDOT needs to review these processes, looking to best practices with similar situations in and outside of Minnesota, and develop a better way to address these issues. If this is done before a project is slated to start, it will avoid delay created by a municipality, utility company, or landowner holding the project hostage while negotiating an agreement.

### **Collaborate with Metro Planning Organizations (MPOs/entities)**

While MnDOT focuses on the statewide planning of transportation in Minnesota, other local and metropolitan planning organizations focus on a more regional transportation perspective. The task force suggested that MnDOT needs to bolster its partnership with these entities to strengthen and enhance transit operations throughout the state.

# **Recommendations**

## **Primary Recommendations**

### **1. Planning and Policy Making Perspective – Validate Statewide Interests in MnDOT Regional Structure and Allocation Process**

Of all the areas the task force discussed, the members rated changes to the long-time regional structure and historical funding and resource allocation approach as having the highest potential for improvement in the efficiency and effectiveness of MnDOT. There was extensive discussion that repeatedly returned to the question of whether the current decentralized MnDOT structure and the allocation methodology being used achieved optimal results for the state. Is the decentralized MnDOT structure that has served the state well for the last several decades the most appropriate for MnDOT in the coming decade? Is the status quo equilibrium among stakeholder interests that has developed around this structure been a barrier to the flow of funds and resources to the highest needs in the state?

While the task force by no means felt it had the representation, expertise, or information to determine that a more centralized approach to organizational funding structures be undertaken, members did note that the topic resurfaced numerous times. The task force recommends that the MnDOT Commissioner and the Legislature conduct a review to either satisfy themselves that the current decentralized organizational and funding structures are optimal for the future or, if they are not, outline those structural aspects which should be changed.

To that end, the Transportation Task Force recommends that a work group be developed out of the MnDOT Commissioner's Office to review the allocation process, analyze its current strengths and deficiencies, and develop a plan of action to implement their findings to provide a fair and efficient process. The work group would act in cooperation with the Minnesota House and Senate Transportation Committees. The Commissioner of Transportation, in consultation with the Chairs of the respective legislative committees, would select individuals to sit on this work group from MnDOT staff, other agencies, private sector representatives, and other key stakeholders as deemed necessary.

The task force recommends the work group focus on the MnDOT structure as well as how this affects the allocation of funds and resources. In addition to review of whether structural organizational changes could enhance operational efficiency and effectiveness, their charge will be to determine who has or who should have the authority on making allocation decisions and how that decision process should operate. It was noted in a task force meeting that the Commissioner of Transportation currently has much of the authority and background to make changes in this area.

Further, the task force recommends that the work group look at and resolve issues including:

- Validation of the district office structure including appropriateness of the current eight (8) districts and the current district boundaries.
- The need for and benefits of a more centralized focus
- Using evidence based, data-driven processes to reach decisions, including consistency between district project goals and what each district funds
- The appropriate structure for allocation of funds to provide the best possible transportation system in Minnesota. Key areas the task force recommended being discussed in the structure include:
  - Allocation of resources (including staff, machinery, and funding) to do the work
  - Appropriate authority (including the balance of power among the parties and the span of control)
  - Challenging the status quo of how it has operated in the past including behaviors, overlap or duplication of services/tasks, and assessing the number of districts included in the funding allocation process

The timeline suggested by the task force is as follows:

- Select and hold the first meeting of the work group in early 2009 (January or February).
- Commissioner of Transportation, with input from the work group, submits potential areas of legislation, if any is needed, to implement the topic to the Legislature by February 28, 2009.
- The Commissioner of Transportation submits a progress report to the Legislature and Governor by May 1, 2009, on progress of the work group.
- Periodic updates of the work group are submitted to the Legislature and Governor by November 1, 2009, and on this date in subsequent years if the task force has not completed its work.

## **2. Foundational Areas to Ensure Change – Develop a Continuous Improvement Process in MnDOT**

A second critical area task force members identified that cuts across most of the other taskforce focus areas was the need to imbed a greater cultural drive toward continuous improvement, particularly in the development and use of systematic cost-based decision making. The members noted many examples of excellent progress in the use of metrics and data driven decision making. However, it was also noted that where cost is part of the decision process, systemic barriers and cultural resistance have resulted in less organizational drive for continuous improvement compared with high performing private businesses. The taskforce also perceived a higher risk of failure for individual improvement projects that try to challenge the cultural norms than would be the case in an organization that embraces best practices in continuous improvement.

The Transportation Task Force recommends that MnDOT implement a continuous improvement process (i.e. Six Sigma, Lean) throughout the organization. The task force members stated that MnDOT should be congratulated for the progress it has made so far in incorporating innovation and measurement into its major projects but this work should be encouraged and expanded.

Further, the task force recommends that MnDOT work with a private sector partner to analyze and improve the use of metrics in MnDOT. During a task force meeting such an offer was made, and MnDOT and the offering party will follow up. The task force identified a series of cost accounting or cost efficiency areas on which MnDOT should focus. They included:

- Cost estimates of a project versus actual project cost
- Data to allow for district-to-district comparisons, including cost comparisons, project comparisons, and success in meeting district or statewide goals
- Whether capital investments are achieving or will achieve MnDOT's strategic objectives

Additionally the task force recommended the following steps:

- Strategic high-level objectives are established first, followed by the discovery of the key variables that drive these objectives.
- Processes are put in place to drive variables in the desired fashion.
- Metrics are established to track the variables. The organization as a whole has to have agreement on the objectives and key variables to be effective. This takes time, effort and processes.

## **Additional Recommendation**

### **3. Practice and Implementation Perspective – Establish and Use Best Practices for Business Operations**

The Transportation Task Force recommends that, while acknowledging design-build contracting and construction is not appropriate for all MnDOT projects, it is apparent that the agency has established a body of knowledge on the project management processes

and practices that design-build uses and should utilize this knowledge whenever appropriate. Much of this learning can be used to improve overall MnDOT project management practices, regardless of the contracting or construction method.

Further, the task force recommends that MnDOT leaders create a formal mechanism for:

- Addressing internal structural barriers to implementing innovative project management approaches.<sup>2</sup> For example, the suggestion that resources are a barrier to greater use of design-build; the resource issue suggests skill constraints rather than resource numbers.
- Cultivating innovative best practices to reward success and to better manage and learn through failure

Additionally, members noted that MnDOT should consider the merits of establishing an internal “design-build” group or potentially utilizing its existing Office of Project Scope and Cost Management to capture the best aspects of design-build but without the contractual downsides that exist on many projects. The success and control of such an approach may require new reward mechanisms not available to public employees. They mentioned that with a more creative approach, the potential benefits increase but so do the needs for new governance approaches. Task force members said that project accounting and data integrity are key enablers.

## **Other Ideas for Consideration**

Besides those listed above, several suggestions for recommendations were offered by task force members. Because of a lack of time, these items were not fully considered by the task force as a whole and are not considered formal recommendations. However, members noted they did not want to lose the good ideas that were offered in these suggestions for recommendations. The full text of these suggestions is in Appendix C.

### **Provide Financial Accountability – Address the Key Gaps in the Current Accounting System and Accounting Process**

MnDOT runs the equivalent of a multi-billion dollar project execution and services business, yet there was evidence of a significant gap in systems, processes and practices in managing accounting data and project cost accounting compared with world-class operations. This gap was recognized within MnDOT and there are efforts to make improvements such as the Financial Integrity Gold Standard project (FIGS). However, in presentations made, it was not clear that this project was fully endorsed and there was not a sense of confidence that there was a clear action plan that would ensure success. There seems to be a long history of aborted and partially completed accounting system changes and fixes. Some lack of process and adherence to systematic and consistent application of process may be due to operational flexibility in the use funds, as well as the administrative burden of adhering to a more precise system. Unless a financial system is seen as robust and data easily translatable into information, it is natural that users see little future benefits to precision. However, given the magnitude of the third party

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<sup>2</sup> Office of Project Scope and Cost Management

expenditures that flow through MnDOT, accessible and credible data is critical to decision making, managing the project estimation-to-project closure cycle and developing a continuous improvement, data-driven culture.

To operate as a world-class organization, it is an imperative that a course of action is taken that defines, develops and implements system and process changes to address this gap. Critical are the training, change management and feedback/support processes to ensure any improvements embed themselves into the MnDOT culture. No recommendation is being made as to the appropriateness of FIGS or the need for new systems versus the need to adapt current systems in closing these gaps.

**Strengthen Leadership in Program Management and Development – Ongoing Support of Current MnDOT Actions to Improve Project Scoping, Cost Estimating, and Cost Management.**

MnDOT and its Scoping and Cost Estimating Task Force should be congratulated for its efforts to date in addressing the existing substantial gap to best practice. The path being taken, which is well under way, appears to incorporate many of the commonly used cost estimating techniques found in large successful project organizations. Still, such practices and techniques are new within MnDOT and within the Legislature and administration; implementation can be easily be derailed. While the changes being taken should be an improvement on their own right, if fully embedded in the culture, their real benefit is dependent upon a robust project accounting system and data integrity coupled with the ability to drive for continuous improvement and the pressure to do so.

It is suggested that the recommendations of the Scoping and Cost Estimating Task Force be captured in an implementation plan in a form that can be sponsored by the MnDOT Commissioner, with clear measurable quarterly milestones. Due to the reported number of aborted process improvement initiatives, it is recommended that an external board, panel or agency review progress against these plans quarterly. As this is a core process within MnDOT and is critical to the efficient and effective expenditure of funds, there should be an annual continuous improvement program aimed at addressing evolving barriers and gaps in scoping, estimating and controlling the costs of MnDOT projects. Progress against quarterly milestones should be an ongoing review.

Further, training and change process management both within MnDOT and for effected legislative and administration personnel should receive sponsorship and commitment from legislative and administration leaders.

**Authorize MnDOT to Implement Pilot Projects Using Different Contracting Methods and Purchasing Options.**

The pilot projects should be done with projects in the metropolitan area and in one or two MnDOT districts in greater Minnesota to provide geographic balance and project diversity. Suggestions for pilot projects include:

- Pilot project #1: Use contractor at risk and/or other contracting methods that the department has explored. This could be used to determine if other contracting methods would deliver projects in a more efficient manner.

- Pilot project #2: Bundle several similar projects within a MnDOT district into one contract. For example, a group of overlay projects could be packaged together into one contract. This could be used to determine if there are economies of scale with similar projects.
- Pilot project #3: Allow MnDOT to bulk purchase or use a reverse auction to acquire construction materials for use in several projects during a construction season. For example, secure a single contract for concrete or asphalt for an entire MnDOT district for a summer and let the MnDOT contract supply all contractors working on various projects. This could be used to determine if dollars are saved in material costs for projects and in costs of the contracting process.

# Appendix A:

37.7 Sec. 9. **TRANSPORTATION STRATEGIC MANAGEMENT AND**

37.8 **OPERATIONS ADVISORY TASK FORCE.**

37.9 Subdivision 1. **Establishment; duties.** A task force is established to advise the  
37.10 governor and the legislature on management and operations strategies that will improve  
37.11 efficiency in transportation. The task force must provide an assessment that identifies  
37.12 strategies and makes recommendations, including any proposals for legislative changes,  
37.13 to improve efficiency in (1) state transportation construction and maintenance projects,  
37.14 and (2) management of state transportation infrastructure. In developing its assessment,  
37.15 the task force may consider best practices in business and construction management;  
37.16 efficiency concepts in academic, business, or other environments; and, how requirements  
37.17 under law affect transportation efficiency. The assessment provided by the task force must  
37.18 include, but is not limited to, analysis of the project development process, cost estimation,  
37.19 bidding and award of contracts, contract management, cost overruns, and construction  
37.20 project oversight by the Department of Transportation.

37.21 Subd. 2. **Membership.** The advisory task force consists of the following members:

37.22 (1) the commissioner of transportation, or the commissioner's designee;

37.23 (2) the chair of the Metropolitan Council, or the chair's designee;

37.24 (3) one person appointed by the governor as a representative of the construction  
37.25 industry, who has expertise in transportation construction projects;

37.26 (4) three persons appointed by the governor from a postsecondary academic  
37.27 institution, who have expertise in applied economics, organizational efficiency, or business  
37.28 management;

37.29 (5) three persons appointed by the governor from the private sector, who have  
37.30 expertise in management or corporate efficiency but would not qualify for membership  
37.31 under clause (3);

37.32 (6) two members of the house of representatives appointed by the speaker of the  
37.33 house of representatives;

37.34 (7) one person appointed by the speaker of the house of representatives who is a  
37.35 member of organized labor;

38.1 (8) two members of the senate appointed by the senate committee on rules and  
38.2 administration under the rules of the senate; and

38.3 (9) one person appointed by the senate committee on rules and administration under  
38.4 the rules of the senate who is a member of organized labor.

38.5 Subd. 3. **Appointment of members.** The appointments and designations authorized  
38.6 by this section must be completed by August 1, 2008.

38.7 Subd. 4. **Staffing support.** Upon request of the task force, the commissioner of  
38.8 administration must provide meeting space and administrative services. The commissioner  
38.9 of transportation shall provide information and other assistance as requested by the task  
38.10 force.

38.11 Subd. 5. **Administrative provisions.** (a) The commissioner of transportation, or the  
38.12 commissioner's designee, must convene the initial meeting of the task force. The members  
38.13 of the task force must elect a chair or cochair at the initial meeting.

38.14 (b) Public members of the task force serve without compensation or payment of  
38.15 expenses.

38.16 (c) The task force may accept gifts and grants, which are accepted on behalf of  
38.17 the state and constitute donations to the state. Funds received under this paragraph are  
38.18 appropriated to the commissioner of administration for purposes of the task force.

38.19 (d) The task force expires May 31, 2009.

38.20 Subd. 6. **Report.** By December 15, 2008, the task force shall submit a report on

38.21 transportation management and operations efficiency strategies to the governor and  
38.22 to the chairs and ranking minority members of the house of representatives and senate  
38.23 committees with jurisdiction over transportation policy and finance.  
38.24 **EFFECTIVE DATE.** This section is effective the day following final enactment.

# Appendix B



## Minnesota Transportation Strategic Management and Operations Advisory Task Force

December 15, 2008

The Honorable Tim Pawlenty  
Governor, State of Minnesota  
130 State Capitol  
Saint Paul, Minnesota 55155

The Honorable Senator Steve Murphy, Chair  
Senate Transportation Committee  
Minnesota Senate  
Capitol Building, Room 325  
Saint Paul, Minnesota 55155

The Honorable Rep. Bernie Lieder, Chair  
House Transportation Finance Committee  
Minnesota House of Representatives  
423 State Office Building  
Saint Paul, Minnesota 55155

The Honorable Rep. Frank Hornstein, Chair  
House Transportation Policy Committee  
Minnesota House of Representatives  
437 State Office Building  
Saint Paul, Minnesota 55155

Dear Governor Pawlenty, Senator Murphy, and Representatives Lieder and Hornstein:

The Transportation Strategic Management and Operations Advisory Task Force was created by the 2008 Minnesota Legislature, Chapter 152, Article 6, Section 9, to "advise the governor and the legislature on management and operations strategies that will improve efficiency in transportation." This letter and the following enclosure record the work of the task force to date.

The Task Force has met four times during since October 2008. We have listened to presentations about and held valuable discussions around a number of areas in the operation, management, and structure of MnDOT's work. The discussions led members to suggest various ideas for improving operations, and the task force has honed those ideas to four key areas of focus in which it will work to develop specific recommendations. While task force members have not formally voted or agreed on these areas, our discussions have certainly led us to concentrate there. The enclosure outlines our focus to date.

The task force will meet again in January 2009 to continue our work and develop recommendations. Following that meeting, we will provide you with a full report by the end of January 2009 on our efforts and results.

Sincerely,

Handwritten signature of Clay Parker in black ink.

Clay Parker, Co-Chair  
Governor's Private Sector Representative

Handwritten signature of Adam Duininck in black ink.

Adam Duininck, Co-chair  
Senate Organized Labor Representative

Enclosure

c: Senate Majority Leader Sen. Larry Pogemiller  
Senate Minority Leader Sen. Dave Senjem  
Speaker of the House Rep. Margaret Anderson Kelliher  
House Minority Leader Rep. Marty Seifert  
Thomas K. Sorel, Commissioner, Minnesota Department of Transportation  
Members, Transportation Strategic Management and Operations Advisory Task Force

# Transportation Strategic Management and Operations Advisory Task Force

## Focus Areas

Developed at the December 8, 2008, Meeting

### Overview

The Transportation Strategic Management and Operations Advisory Task Force, created by the 2008 Legislature, identified the following focus areas under four main topic headings to advise policy makers on improving efficiency and effectiveness in the management and operations of transportation in Minnesota. None of these areas have yet been approved by the Task Force but members are looking to identify specific recommendations in these areas at a future meeting in January 2009. The numbered items in each of the focus areas are suggested ideas by task force members. Items task force members thought are particularly key within a focus area are identified by an asterisk (\*). Further, members acknowledged points or questions that create the rationale for why these areas are important for the task force deliberation.

### Critical Topic – Planning, process and structure

#### A. Validate Statewide Interests in Allocation Process (review centralized/decentralized)

1. Allow more centralized decision-making regarding funding allocation
2. Improve consistency and standards by centralized decision making (Strategic Plan vs. Consensus Plan; no big picture plan; too many stakeholders)
3. Review process of setting priorities by delegation to districts; gather more information on how priorities are set and how the process with districts operates
4. Develop a more balanced formula (focus on high priority projects in the areas of: safety, preservation, mobility, and, regional/community priorities)

#### Rationale points or key questions identified by task force members leading to the selection of this area as a critical topic

- Tension between how we allocate the funds and the limited amount of money available
- Currently there does not seem to be a broad understanding outside of MnDOT of how this system works; stakeholders do not have a comfort level in this process
- Need to develop a greater balance between statewide and regional priorities; it is unclear if statewide priorities are reflected in the current process
- What is the organizational effectiveness in a MnDOT/District structure? Is it the most effective and efficient process for funding and operating a transportation system?
- Potential to radically restructure government in the future and improve its operation
- Need to understand what a centralized decision-making process and management structure would look like and how changing either would improve upon the current approach.

- Note that there may be connections between this area of focus and the topics of the municipal consent process and the right-of-way acquisition process (highlighted in X below)

## **Critical Topic – Practice and Implementation Perspective**

### **B. Establish and Use Best Practices for Business Operations (Maintenance and Construction)**

1. \*Incorporate lessons learned from design-build and best value into design-bid-build projects (use some of the strategies that worked to manage risk, minimize cost and accelerate delivery)
2. \*Consider other financing, purchasing, and contracting methodologies and how to do them (pilot projects)
3. Design-Build (DB)/Design-Bid-Build (DBB) progress; invest in training and quality assurance (best practice equals balance of methods)
4. Create a task force within MnDOT (with outside support) to incorporate DB best practices across MnDOT
5. Develop (over time) a more cost-effective way to do construction (it is currently based on funds allocated)
6. Conduct detailed review of any modification suggestions for legislation on contracting methods; DB, contractor at risk

#### **Rationale points or key questions identified by task force members leading to the selection of this area as a critical topic**

- The use of best practices to improve effectiveness and efficiency will bolster public trust and confidence
- Design Build has a great track record but is not a solution for all transportation issues; lessons learned in Design Build can be embedded in appropriate areas throughout MnDOT
- Use of best practice helps to ensure the best return on investment; a new, historic investment in transportation has been put in place with Chapter 152 funds
- Is our limited amount of dollars used as efficiently as possible?
- The best practice concept can be used throughout MnDOT to get the most value out of the transportation funding
- Use of best practices in Minnesota creates a model for federal transportation operation

## **Critical Topic – Data Driven Decision-making**

### **C. Establish a Culture of Evidence**

1. Install analytics across all functions
2. Collect information on effectiveness of past practices to establish benchmarks for new ones; enable before/after comparison
3. Audits of estimation and regional projects vs. STIPS

## **D. Provide Financial Accountability**

1. \*Implement a better financial information system that will drive better decision-making and determining set aside areas, etc.
2. \*Use best practices analytics (for example, units of measurement for projects)
3. Create a legacy system (for example, finance)
4. Use more detailed project metrics for construction and planning construction activities
5. Use billable hours to track time spent on projects, or phases of a project
6. Legislative oversight/audit of MnDOT finances

## **E. Strengthen Leadership in Program Management and Development**

1. Develop performance management analytics; adopt two to four-year “post go” implementation plan (cost estimation project critical)
2. Track milestones; audit current estimation initiatives for two years

### **Rationale or key questions identified by task force members leading to the selection of this area as a key area of focus**

- Provides accountability to taxpayers
- MnDOT has identified a number of basic systems and processes it needs to work on and has taken various steps to address these areas. Focus on the work that still needs to be done to complete these efforts and have them generate the desired impact.
- Closing these gaps is critical for any high performing billion-dollar contracting organization.
- There is a need to have basic funding and process data to judge operational effectiveness
- Clear metrics have a positive impact on employees; staff have a clearer understanding of what they need to do or accomplish
- Now is a critical time because of a greater competition for resources and the increased expectation of stewardship of our state’s resources
- Generation of a better performance management system in MnDOT with better data

## **Foundational Areas to Ensure Change**

There were a number of foundational areas which taskforce members felt were key enablers and without strong attention would likely compromise other critical topics.

## **F. Develop a Human Resources Plan**

1. Tie the strategic plan on human resources to the execution strategy
2. Determine the right balance of internal staff and outsourcing
3. Competency and continuity in workforce plan: determine the appropriate level of workforce

## **G. Employ Leadership Sponsored Change Management**

1. \*Create a “change mindset” within MnDOT organization (culture and skill-set vs. quantity)

2. \*Employ “best practices” tone at the top leadership level (Strategic Transportation Plan)
3. Implement new culture and tie new practices to performance evaluation (coordinated by top-level leadership)

**Rationale or key questions identified by task force members leading to the selection of this area as a foundational area of focus**

- Acknowledging that state employees are a valuable resource and they need to be supported by leadership. Further staffing levels needs to be sufficient and employees have a responsibility to embrace efforts to improve the operation of MnDOT
- Planning is a key resource in getting the work done and it needs to be carefully considered into the future; the state needs a steady, flexible workforce to do the work; a staffing plan would determine what needs to be done and to identify the critical skills necessary to do the work
- A change in the culture at MnDOT facilitates, encourages, and supports the improvement initiatives
- The changing demographics of the Minnesota workforce require MnDOT to change its methods for recruiting and operating the transportation system in Minnesota.
- MnDOT needs to better balance the volatile fluctuations from year to year in projects and needed staff to do the work.
- A plan provides confidence in managing the third-party spending
- Planning focus on training and/or adapting skill sets for alignment with projected work areas
- Note: A number of the factors brought up in this rationale list are outside the control of MnDOT; some areas MnDOT can control but many other they cannot.

**Other Areas Considered by the Task Force**

**H. Re-examine Process on Approval from Outside System (relationships)**

1. Focus on costs of utilities and right-of-way
2. Revisit municipal consent process
3. Track deviations to MnDOT standard municipal consent cost share formula
4. Review the right-of-way acquisition process

**I. Collaborate with Metro Planning Organizations (MPOs/entities)**

1. Strengthen collaboration with Met Council; increase support for transit

# Appendix C

## Suggested Recommendation Language

### **Suggested Recommendation – Address the key gaps in the current accounting system an accounting process**

- MnDOT runs the equivalent of a multi-billion dollar project execution and services business, yet there was evidence of a significant gap in systems, processes and practices in managing accounting data and project cost accounting compared with world-class operations.
- This gap was recognized within MnDOT personnel and there are efforts to make improvements such as their financial integrity fold standard project (FIGS). However, in presentations made, it was not clear that this project was fully endorsed and there was not a sense of confidence that there was a clear action plan that would insure success.
- There seems to be a long history of aborted and partially completed accounting system changes and fixes.
- Some lack of process and adherence to systematic and consistent application of process may be due to operational flexibility in the use funds, as well as the administrative burden of adhering to a more precise system.
- Unless a financial system is seen as robust and data easily translatable into information, it is natural that users see little future benefits to precision.
- However, given the magnitude of the third party expenditures that flow through MnDOT, accessible and credible data is critical to decision making, managing the project estimation –to-project closure cycle and developing a continuous improvement, data-driven culture.
- To operate as a world-class organization, it is an imperative that a course of action is taken that defines, develops and implements system and process changes to address this gap. Critical are the training, change management and feedback/support processes to insure any improvements embed themselves into the MnDOT culture.
- No recommendation is being made as to the appropriateness of FIGS or the need for new systems vs. the need to adapt current systems in closing these gaps.

### **Who is going to do what?**

- MnDOT

### **... by when?**

- Plan to be developed with budget and milestones. Full implementation of such changes can take a year. It is far more important to have a clear sponsored plan with hard milestones that are driven to completion and a training and change process that imbeds proper use than just a simple date where the measurement of success or failure is hard to determine.
- It is suggested that the plan have clear and measurable quarterly milestones and that MnDOT utilize an external board/agency to assess progress.

### **What will it take to do it?**

- Initial funding and resources for a detailed systems review

- Follow on funding dependent upon system/process change vs. system/process approach adopted.

**... who will be impacted?**

- MnDOT personnel

**What outcome will be envisioned?**

- This is a prerequisite that underpins accountability, continuous improvement, operational best-practice and project performance.

**Suggested Recommendation – Ongoing support of current MnDOT actions to improve project scoping, cost estimating and cost management.**

- MnDOT and their Scoping and Cost Estimating Taskforce should be congratulated for its efforts to date in addressing the existing substantial gap to best practice.
- The path being taken, which is well under way, appears to incorporate many of the commonly used cost estimating techniques found in large successful project organizations.
- Still, such practices and techniques are new within MnDOT and within the legislator and administration and implementation can be easily be derailed.
- While the changes being taken should be an improvement on their own right, if fully embedded in the culture, their real benefit is dependent upon a robust project accounting system and data integrity coupled with the ability to drive for continuous improvement and the pressure to do so.
- It is recommended that the recommendations of the “Scoping and Cost Estimating Taskforce” be captured in an implementation plan in a form that can be sponsored by the MnDOT Commissioner, with clear measurable quarterly milestones.
- Due to the reported number of aborted process improvement initiatives, it is recommended that an external board, panel or agency review progress against these plans quarterly
- As this is a core process within MnDOT and is critical to the efficient and effective expenditure of funds, there should be an annual continuous improvement program aimed at addressing evolving barriers and gaps in scoping, estimating and controlling the costs of MnDOT projects. Progress against quarterly milestones should be an ongoing review.
- Training and change process management both within MnDOT and for effected legislative and administration personnel should receive sponsorship and commitment from legislative and administration leaders.

**Who is going to do what?**

- MnDOT to follow through on ongoing Scoping, Estimating and Cost Management Taskforce efforts.
- The implementation and embedding of these changes should be treated as a change management project and formally managed as a project with milestones that are reported, ideally to a board, panel, and agency external to MnDOT to help resist reported historical tendencies for such efforts to be derailed.

**... By when?**

- As the taskforce was intending to formally roll out its recommendations in January 2009, the full implementation should be a primary deliverable of CY 2009.
- An annual improvement plan for this area should be formally managed.

**What will it take to do it?**

- Sponsorship, training, change management support within MnDOT and within the Legislature.
- Mechanism to insure follow-through and address barriers that may derail.
- Considerable risk to usefulness if not culturally embedded and if accounting process and discipline not addressed as well (see other recommendations).

**... who will be impacted?**

- MnDOT, Administration, Legislator.

**What outcome will be envisioned?**

- Methodical, systematic process for scoping, estimating and controlling projects.
- Improved clarity around costs and accountability
- Increased confidence in decision making

**Suggested Recommendation – Authorize MnDOT to implement pilot projects using different contracting methods and purchasing options.**

The pilot projects should be done with projects in the metropolitan area and in one or two MnDOT districts in greater Minnesota to provide geographic balance and project diversity. My suggestions for pilot projects are:

- Pilot project #1: Use contractor at risk and/or other contracting methods that the Department has explored. This could be used to determine if other contracting methods would deliver projects in a more efficient manner.
- Pilot project #2: Bundle several similar projects within a MnDOT district into one contract. For example, a group of overlay projects could be packaged together into one contract. This could be used to determine if there are economies of scale with similar projects.
- Pilot project #3: Allow MnDOT to bulk purchase or use a reverse auction to acquire construction materials for use in several projects during a construction season. For example, secure a single contract for concrete or asphalt for an entire MnDOT district for a summer and let the MnDOT contract supply all contractors working on various projects. This could be used to determine if dollars are saved in material costs for projects and in costs of the contracting process.

# Appendix D

## Recommendation Options from Nov. 25, 2008

### TASK FORCE RANK

Recommendation Option	Implem. (Low # best)	Impact (High # best)
<b>A. Validate Statewide Interests in Allocation Process (review centralized/decentralized)</b>	<b>8.15</b>	<b>7.62</b>
1. Allow more centralized decision-making regarding funding allocation	<b>7.00</b>	<b>7.50</b>
2. Improve consistency and standards by centralized decision making (Strategic Plan vs. Consensus Plan; no big picture plan; too many stakeholders)	<b>6.36</b>	<b>7.07</b>
3. Review process of setting priorities by delegation to districts; gather more information on how priorities are set and how the process with districts operates	<b>4.57</b>	<b>6.00</b>
4. Develop a more balanced formula (rural vs. urban; preservation vs. mobility; between ATP's; bridges vs. roads)	<b>6.86</b>	<b>6.43</b>
<b>B. Establish and Use Best Practices for Business Operations (Maintenance and Construction)</b>	<b>4.62</b>	<b>7.85</b>
1. Design-Build (DB)/Design-Bid-Build (DBB) progress; invest in training and quality assurance (best practice equals balance of methods)	<b>4.57</b>	<b>6.79</b>
2. Create a task force within MnDOT (with outside support) to incorporate DB best practices across MnDOT	<b>4.43</b>	<b>5.93</b>
3. Develop (over time) a more cost-effective way to do construction (it is currently based on funds allocated)	<b>6.00</b>	<b>6.79</b>
4. Conduct detailed review of any modification suggestions for legislation on contracting methods; DB, contractor at risk	<b>4.93</b>	<b>5.14</b>
5. Incorporate lessons learned from design-build and best value into design-bid-build projects (use some of the strategies that worked to manage risk, minimize cost and accelerate delivery)	<b>4.64</b>	<b>7.00</b>
6. Experiment with other purchasing and contracting methodologies (pilot projects)	<b>5.14</b>	<b>6.86</b>
<b>C. Establish a Culture of Evidence</b>	<b>5.23</b>	<b>6.85</b>
1. Install analytics across all functions	<b>5.54</b>	<b>6.57</b>
2. Collect information on effectiveness of past practices to establish benchmarks for new ones; enable before/after comparison	<b>5.00</b>	<b>6.50</b>

3. Audits of estimation and regional projects vs. STIPS	4.79	5.86
<b>D. Provide Financial Accountability</b>		
1. Implement FIGS (better financial information will drive better decision-making and determining set aside areas, etc.)	5.64	8.00
2. Create a legacy system (for example, finance)	6.00	7.21
3. Use more detailed project metrics for construction and planning construction activities	5.43	6.64
4. Use billable hours to track time spent on projects, or phases of a project	5.43	6.07
5. Use best practices analytics (for example, units of measurement for projects)	5.79	7.00
6. Legislative oversight/audit of MnDOT finances	4.46	5.00
<b>E. Strengthen Leadership in Program Management and Development</b>		
1. Develop performance management analytics; adopt two to four-year "post go" implementation plan (cost estimation project critical)	5.36	6.43
2. Track milestones; audit current estimation initiatives for two years	4.64	6.57
<b>F. Develop a Human Resources Plan</b>		
1. Tie the strategic plan on human resources to the execution strategy	4.53	5.80
2. Support workforce, and do not outsource public jobs	3.87	3.33
3. Determine the right balance of internal staff and outsourcing	4.47	5.87
4. Focus on no more than three high-level projects	4.38	4.00
5. Competency and continuity in workforce plan: determine the appropriate level of workforce	4.93	5.57
<b>G. Employ Leadership Sponsored Change Management</b>		
1. Implement new culture and tie new practices to performance evaluation (coordinated by top-level leadership)	6.79	6.86
2. Create a "change mindset" within MnDOT organization (culture and skill-set vs. quantity)	6.79	7.14
3. Employ "best practices" tone at the top leadership level (Strategic Transportation Plan)	4.57	6.79
<b>H. Re-examine Process on Approval from Outside System (relationships)</b>		
1. Focus on costs of utilities and right-of-way	5.86	5.64

2. Revisit municipal consent process	<b>7.36</b>	<b>5.50</b>
3. Track deviations to MnDOT standard municipal consent cost share formula	<b>4.86</b>	<b>5.79</b>
4. Change the right-of-way acquisition process	<b>7.14</b>	<b>5.71</b>
<b>I. Collaborate with Metro Planning Organizations (MPOs/entities)</b>		
1. Strengthen collaboration with Met Council; increase support for transit	<b>4.00</b>	<b>4.43</b>

On the following pages, the response to recommendations is presented in graphic form.

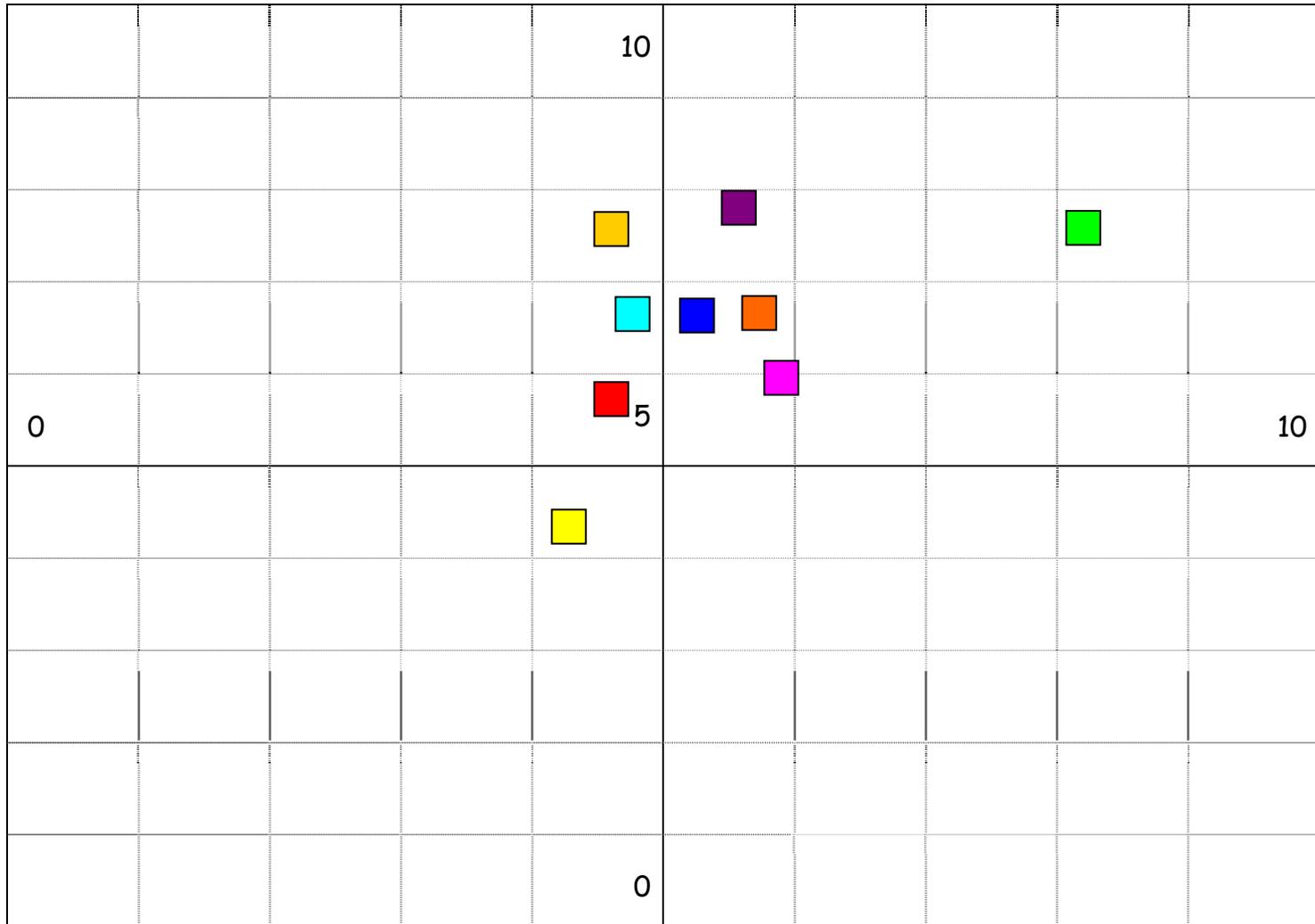
# OPPORTUNITY TO IMPACT

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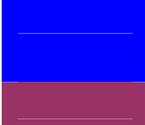
Tough



**Low**

**Task Force Average Response to Survey**  
*(lettering based on previous chart)*

**Key:**

-  **A. Validate Statewide Interests in Allocation Process (review centralized/decentralized)**
-  **B. Establish and Use Best Practices for Business Operations (Maintenance and Construction)**
-  **C. Establish a Culture of Evidence**
-  **D. Provide Financial Accountability**
-  **E. Strengthen Leadership in Program Management and Development**
-  **F. Develop a Human Resources Plan**
-  **G. Employ Leadership Sponsored Change Management**
-  **H. Re-examine Process on Approval from Outside System (relationships)**
-  **I. Collaborate with Metro Planning Organizations (MPOs/entities)**