Performance Management at State DOTs: Interactive Self-Diagnostic Tool

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INTRODUCTION

In 2012, the Infrastructure Research Group (IRG) at Georgia Tech conducted a GDOT-funded project to identify the leading practices in organizational performance management at State DOTs in the United States. Among the study outputs, IRG developed a spreadsheet-based *Interactive Self-Diagnostic Tool*. The tool collects information related to the agency context, performance measurement practices, internal organizational processes, and stakeholder relations. It then generates a diagnostic report that provides observations and recommendations for enhancing the agency's performance management program. The study team used this tool to assist GDOT in identifying performance management enhancements. This poster uses screenshots of the tool's input and output pages to demonstrate an example application.

COVER PAGE

Best Practices in Organizational Performance for Transportation Applications:
Performance Management Diagnostic Tool

Developed for: Georgia Department of Transportation
Developed by: Georgia Institute of Technology, Infrastructure Research Group

"Performance Management" is a business practice that allows an agency to track, maintain, and when necessary adjust progress towards achieving its important goals and objectives.
This in-depth diagnostic tool is designed to achieve two purposes:

1) Benchmark performance management practices in one agency against best practices in the field
2) Identify potential actions for enhancing the assessed agency's performance management program

This workbook contains 6 spreadsheet pages for the user, as follows:

Sheet	Function
1. Cover Page	Familiarizes users with the purpose of the tool and workbook organization
2. Input A: Agency Context	Accepts information about the agency's functional units, goals and objectives, and stakeholders
3. Input B: Performance Measurement	Accepts information about the agency's suite of performance measures and targets
4. Input C: Organizational Processes	Accepts information about how different parts of the agency use and interact with performancemeasurement information
5. Input D: Stakeholder Communication	Accepts information about the agency's performance reporting tools and processes, and feedback mechanisms that collect information from (and about) external stakeholders.
6. Diagnostic Report	Provides observations and recommendations for enhancing the organization's performance management program

NOTE: Cells with a red flag in the corner such as this one can be scrolled over to reveal more information.

The cover page familiarizes readers with the purpose of the interactive tool, its organization, and how it operates. Users do not interact with the cover page except to read it and to observe that a comment box appears when the mouse is used to scroll over red flags.

NOTE: Cells ... **This is a comment box. These are indicated by red flags and appear when scrolled over.**

USER INPUT A: AGENCY CONTEXT

The first input sheet accepts general information about the agency structure, goals and stakeholders, which informs the remainder of the diagnostic tool. Most information for this sheet may be gathered from the agency's organizational chart and published strategic planning documents. In this sheet, the user defines the level of depth and detail for the assessment. For example, organizational structure may be defined at the "division" or "bureau" level, or it may list sub-units at the "office" level. Alternatively, the assessment may be conducted for only one division of the agency, in which case it would necessarily include major "offices" or other sub-units of that division. Other contextual information gathered in this sheet includes strategic goals (and potentially objectives) of the agency, and the agency's key external stakeholders.

For questions 1- 4, input the appropriate words and phrases into the colored boxes. Note that questions 3 and 4 also require numerical input using the "Check all that Apply Codes." Question 4 can be answered using information from the agency's organizational chart.

REVIEW DATE: September 24, 2013

1a. Agency Name	Example Department of Transportation
1b. Acronym/Alt. Name	EDOT
1c. Sub-Group (if applicable)	
2. Reviewer Name (and/or Title)	PM Staff

Check all that Apply Codes: ✓ 1 Yes; ✗ 0 No

3. Does the agency have a designated office or position to administer or coordinate performance measurement or management across the agency?
Check YES or NO: ✓ 1

This assessment tool may be used for the agency as a whole, or for a sub-group of the agency, such as a particular division.

If only one sub-group of the agency is to be assessed, identify it here.

If yes, Insert office or postion title below

Office or Position Name	Performance Manager
Accronym/Abbreviation	PM

4. What are EDOT's major functional units?

List functional units in any order

Show hidden rows to list addtional Functional Units

	Functional Units	Division Level	Sub-unit
1	Division of Planning	✓ 1	
2	Division of Administration	✓ 1	
3	Performance Manager		✓ 1
4	Finance Office		✓ 1
5	Division of Engineering	✓ 1	
6	Highway Design		✓ 1
7	Highway Operations		✓ 1
8	Public Transit		✓ 1
9	Asset Management		✓ 1
10	Division of Construction		✓ 1

For an agency-wide view, list all functional units at the "division" or "bureau" level.

For more detailed diagnostics, list all important sub-units of the agency or division being assessed.

The functional units listed here will each be addressed with specific questions in later spreadsheets.

For Question 5, list goals and objectives in the cells to the left and use the "Check all that Apply" codes to indicate characteristics of each goal/objective in the cells to the right.

5a. What are EDOT's strategic goals and/or objectives, or other important decision making areas? (Mark as goal or objective if applicable)
5b. Are these important decision making areas defined explicitly in internal and/or external agency documents (such as the mission, vision, strategic plan, internal process documents or other documents)? (Check "explicit in agency documents" where applicable)
5c. Are any of these decision making areas of higher priority than the others? (Check "high priority" where applicable)

List goals in any order. Follow each goal with any related objectives (if applicable) before moving on to the next goal. Indicate in the boxes at right whether an entry is a strategic goal or objective, if it is explicit in agency documents, and also if it has high priority.

	Text of the goal, objective, or other decision making area	Strategic Goal (5a)	Related Objective (5a)	Explicit in Agency Documents (5b)	High Priority (5c)
1	Safety	✓ 1		✓ 1	✓ 1
2	Move toward zero fatalities		✓ 1	✓ 1	
3	Decrease bike/ped incidents		✓ 1	✓ 1	
4	Asset Management	✓ 1		✓ 1	
5	Increase Pavement Ratings		✓ 1	✓ 1	
6	Mobility	✓ 1		✓ 1	✓ 1
7	Maintain travel speeds on key routes		✓ 1	✓ 1	
8	Increase access to transit		✓ 1	✓ 1	
9	Customer Satisfaction	✓ 1		✗ 0	
10	Employee Retention	✓ 1		✗ 0	

For questions 6 and 7, consider the entire process of performance management at EDOT and the external stakeholders and partners involved. For question 7a, input the names of the important stakeholder groups and mark whether or not these are listed in order of priority. For questions 7b-7c use the 'Check all that Apply' codes in the appropriate colored boxes.

	Complete External Control	Considerable External Influence	Minor External Influence	EDOT is Autonomous
6. To what extent are EDOT's performance management procedures defined externally?		✓ 1		

7a. Who are the key (external) stakeholders or stakeholder groups for the performance management program? (Input names in list)
7b. Do these stakeholders need or want access to performance information? (Check all that apply)
7c. Is the cooperation or input of these stakeholder groups necessary for EDOT to effectively carry out its responsibilities? (Check all that apply)

List stakeholders in any order

Show hidden rows to list addtional stakeholders

Consider answering "yes" if the stakeholder/group has notable influence on important areas such as:
- Strategic Planning/Visioning
- Project Selection or Programming
- Budget or Human Resources
- Another important business function

	(7a) External Stakeholder or Group Name	7b Stakeholder Wants Information	7c EDOT Needs Stakeholder's Input or Cooperation
1	People (Public)	✓ 1	✓ 1
2	Governor	✓ 1	✓ 1
3	Legislators	✓ 1	✓ 1
4	Local Government Officials	✓ 1	✓ 1
5	Business Community	✓ 1	✓ 1
6	Community Improvement Districts	✓ 1	✓ 1
7	Metropolitan Planning Organizations	✓ 1	

In the context of this tool, "strategic goals" are the agency's broader statements of important areas for decision making and achievement. For example, many transportation agencies have the strategic goal of providing a safe transportation system. "Objectives," on the other hand, are more specific and there may be multiple objectives associated with a strategic goal. For example, an agency might have the objective to "reduce traffic fatalities" related to its safety goal.

LINKED WORKSHEETS

Once the agency context is set in Input A, the following three worksheets (User Inputs B-D) refer to this context to ask detailed questions about performance measures and targets, organizational processes, and stakeholder relations respectively. These worksheets accept user inputs using the "check all that apply" and "ordinal answer codes shown below. The inputs from User Inputs B-D are assessed by the tool's internal calculations, and they inform the final diagnostic report.

Check All that Apply

✓ 1 Yes
✗ 0 No

Ordinal Answer Codes for Yes/No Questions

3 Yes/All Measures/Very Much so
2 To some extent/Sometimes/Somewhat
1 No/Not at all
0 Unknown

USER INPUT B: PERFORMANCE MEASUREMENT

In Input B, questions 1-11 ask about the suite of performance measures and targets that are associated with each of the agency's identified goals or objectives. Pop-up comment boxes provide clarification and guidance about how to interpret certain questions. Users input answers in an answer table (shown), which has color-coded formatting that is sensitive to the entered data.

1. Does EDOT have performance measures associated with this important area of decision making?
2. Are performance measures in this area formulated such that changes can be tracked numerically?
3. Do performance measures in this area give actionable information? For example, are they explicitly linked to actions or strategies that EDOT has taken and/or can take?
4. Whether or not performance measures exist, does EDOT already collect data related to this important area of decision making?
5. Is EDOT confident that the existing data are sufficiently accurate?
6. Given existing funding projections, can EDOT afford to sustain regular data collection in this area indefinitely? (Are the data affordable?)
7. Is EDOT maximizing its existing data resources for performance measurement in this area?
8. Are performance measures associated with desired directional trends?
9. Are numerical performance targets set to guide short term achievement?
10. Has EDOT defined timeframes for achieving its targets?
11. Based on current projections, are currently defined targets achievable (within their defined timeframes)?

Strategic Goals/Objectives (From Input A)	1 Measures Exist	2 Measures are Numerical	3 Measures are Actionable	4 Data Exist	5 Data are Accurate	6 Data are Affordable	7 Existing Data are Maximized	8 Measures are Linked with Desired Trends	9 Target Values are Established	10 Timelines are Defined for Achievement	11 Targets/ Timeframes are Achievable
Goal Safety	3	3	2	3	2	3	0	3	3	2	3
Objective Move toward zero fatalities	3	3	3	3	3	3	3	3	3	3	3
Objective Decrease bike/ped incidents	3	3	2	3	2	2	0	3	2	0	
Goal Asset Management	3	3	3	3	3	3	3	3	3	3	3
Objective Increase Pavement Ratings	3	3	3	3	3	3	3	3	3	3	3
Goal Mobility	3	3	2	3	2	3	1	2	2		
Objective Maintain travel speeds on key routes	3	3	3	3	2	3					2
Objective Increase access to transit	1			0							
Goal Customer Satisfaction	3	2	2	3	0	0	0	3	1		
Goal Employee Retention	3	3	2	2	2	3	2	3	3	3	2

USER INPUT C: ORGANIZATIONAL PROCESSES

Using a series of "check-all-that-apply" and yes-or-no questions, the third input sheet accepts information about how the organization and its functional units define and revise performance management structures and procedures, and how they use performance information.

Organizational Structure, Policies, and Procedures: Answer Questions 1-4 using the "Check All that Apply" Codes.

1. How often, on average, are EDOT's strategic goals/objectives, related performance measures, and targets, reviewed for potential revision?

	Goals and Objectives	Performance Measures	Performance Targets
With the Strategic Plan Update			
Annually	✓ 1		
Quarterly			
Another frequency (describe)		✓ 1	✓ 1
They have never been revised			

Describe — Describe other frequency below (if applicable): On a rolling basis, with 2 measures being examined each month

2a. What existing processes support EDOT to revise its performance management structure and procedures, as needed, in order to address new contexts or needs?

	Periodic Review by PM	Periodic Surveys of Staff	Occasional Suggestions	Another Process	No Process Exists	(Describe other process below, if applicable)
Check all that apply	✓ 1	✓ 1				

2b. Do EDOT's periodic surveys of staff explicitly ask about employee satisfaction? ✓ 1

3. (Vertical Integration) How does EDOT ensure that performance information and relevant decisions are shared effectively across its organizational hierarchy?

	Regular in-person meetings	Regular internal reports	Shared Database(s) or Dashboards	Another Process	No Process Exists	(Describe other process below, if applicable)
Check all that apply	✓ 1		✓ 1			

4. (Horizontal Integration) How does EDOT ensure that performance information is shared, as necessary, across and among its functional units?

	Regular in-person meetings	Regular internal reports	Shared Database(s)	Another Process	No Process Exists	(Describe other process below, if applicable)
Check all that apply	✓ 1					

Performance-Related Responsibilities and Outcomes: Answer questions 5-14 below for each of the given groups (locations within the organizational hierarchy and functional units as defined in Input A) by using the "Answer Codes for Yes/No Questions." Note that questions 11 and 14 may be answered with alternative codes (see pop-ups).

5. Does the staff in this group understand and value the concept of performance management?
6. Does this group help define EDOT's strategic goals and/or objectives?
7. Does this group help define performance measures and/or targets that are tracked by PM and reported to external stakeholders?
8. Does this group define performance measures and/or targets that are for internal use only (that is, NOT tracked by PM or reported to external stakeholders)?
9. Does this group collect data inputs for performance measurement?
10. Does this group perform analysis using performance information?
11. Does this group use performance information to make decisions on a regular basis?
12. Does this group require information from any of EDOT's other groups in order to perform its functions?
13. In this group, is up-to-date performance information readily available to those who need it, when they need it?
14. Overall, or on average, has this group demonstrated desirable performance outcomes over the last 1 to 3 years?

Functional Unit or other group within Agency	5 Values Performance Management	6 Helps to Define Strategic Goals/Objectives	7 Defines Externally-Reported Measures and Targets	8 Defines Measures and Targets for Internal-Only Use	9 Collects Data	10 Performs Analysis	11 Regularly Makes Performance-based Decisions	12 Needs Outside Information	13 Receives Timely Information	14 Typically Demonstrates Desireable Outcomes
Top Management	3	3	3	1	1	1	3	3	3	1
Mid-level Management	3	2	2	2	2	2	3	3	3	1
"Front-Lines" Employees	2	2	2	2	3	3	3	2	3	0
Division of Planning	3	3	1	3	2	3	3	3	3	3
Division of Administration	3	3	2	0	2	0	0	0	0	2
Performance Manager	3	3	2	3	2	3	2	3	2	3
Finance Office	3	3	2	0	3	3	0	0	0	2
Division of Engineering	3	3	2	3	3	3	3	0	0	2
Highway Design	3	3	2	0	2	0	0	0	0	0
Highway Operations	3	3	3	3	3	3	3	0	0	3
Public Transit	3	3	3	3	3	3	3	0	0	2
Asset Management	3	3	3	3	3	3	3	3	3	2
Division of Construction	3	3	3	3	3	3	0	0	0	0

USER INPUT D: STAKEHOLDER RELATIONS

This sheet includes questions about how performance information is reported to stakeholders, and how feedback is collected from stakeholder opinions.

For Questions 1-3, use the "check all that apply codes" to indicate which of the given options reflect agency practice. Give answers for each stakeholder/group as distinct from other stakeholders/groups. If a particular agency practice is not reflected in the options available, use the available space for "another" option to describe actual agency practice in words.

1. REPORTING FREQUENCY: How often does EDOT formally provide updated performance information to each stakeholder/group?

Check all that apply	With the Strategic Plan Update	At Least Annually	At least Quarterly	At least Monthly	Continually / Every Day	Another Frequency	Never	(Describe other frequency below, if applicable)
People (Public)					✓ 1			
Governor	✓ 1		✓ 1					
Legislators		✓ 1						
Local Government Officials						✓ 1		As Requested
Business Community						✓ 1		As Requested
Community Improvement Districts						✓ 1		As Requested
Metropolitan Planning Organizations	✓ 1							

2. REPORTING METHODS: Which methods does EDOT use for reporting performance information (specifically) to each stakeholder/group?

Check all that apply	Report Documents	Website(s)	Dashboard Graphics	Time Series Charts	News Media	Social Media	In-Person Meetings	Another Method	Describe Other Method If Applicable
People (Public)		✓ 1	✓ 1	✓ 1		✓ 1			
Governor	✓ 1		✓ 1	✓ 1			✓ 1		
Legislators	✓ 1		✓ 1	✓ 1			✓ 1		
Local Government Officials			✓ 1	✓ 1			✓ 1		
Business Community			✓ 1	✓ 1			✓ 1		
Community Improvement Districts			✓ 1	✓ 1			✓ 1		
Metropolitan Planning Organizations			✓ 1	✓ 1			✓ 1		

USER INPUT D (CONTINUED)

3. STAKEHOLDER INPUT: What mechanism(s) does EDOT have in place to get feedback from and learn about each stakeholder/group?
(Answer for each particular stakeholder/group, as distinct from other groups)

(Check All that Apply)	Measure of use	Detailed Survey/Poll	Emails/ Calls	Social Media	In-person meetings	Another Method	None	Describe Other Method If Applicable
People (Public)	✓ 1	✓ 1	✓ 1	✓ 1				
Governor					✓ 1			
Legislators						✓ 1		Legislation
Local Government Officials					✓ 1			
Business Community							✓ 1	
Community Improvement Districts							✓ 1	
Metropolitan Planning Organizations					✓ 1			
0								
0								
0								

Show hidden rows above for additional stakeholders

3b. Which subjects are included on EDOT's stakeholder surveys?

(Check all that apply)	Stakeholder Satisfaction in General	Satisfaction with Specific Elements	Stakeholder Priorities or Preferences	Quality of Reporting	Uses of Performance Information	Other Subjects	Describe Other Important Subjects
	✓ 1	✓ 1	✓ 1				

For Question 4, use the "ordinal answer codes for yes/no questions".

4. STAKEHOLDER SATISFACTION: According to existing feedback, to what extent do each of the following reflect the needs and priorities of each stakeholder/group? (In other words, how satisfied is each stakeholder/group with each of the following?)
(a) EDOT's strategic goals and objectives
(b) EDOT's definition of desireable performance trends and targets
(c) The effectiveness of EDOT's performance reports
(d) EDOT's demonstrated performance, in general (recent achievement record)

	Goals and Objectives	Trends and Targets	Quality of Reports	Demonstrated Performance
People (Public)	3	0	0	2
Governor	3	0	3	2
Legislators	3	0	3	2
Local Government Officials	3	0	3	2
Business Community	3	0	0	2
Community Improvement Districts	3	0	0	0
Metropolitan Planning Organizations	3	0	0	2

In this section, question 3b only appears if the user inputs at least one "yes" answer in the "Detailed Surveys/Polls" column for the main portion of question 3.

User may show hidden rows for additional stakeholders

DIAGNOSTIC REPORT

This Interactive Self-Diagnostic Tool was developed as part of a larger project, which identified leading practices in transportation performance management. The larger project included an extensive literature review, eighteen in-depth case studies of State DOTs, and two expert panel discussions. The Interactive Self-Diagnostic Tool uses the findings of the larger project to inform recommendations in its Diagnostic Report.

The Diagnostic Report characterizes the subject agency's performance management program based on the information entered into User Inputs A-D. Furthermore, it uses the entered data to identify opportunities for enhancing the agency's performance management practices, and it makes recommendations for enhancement.

Existing conditions are characterized, and recommendations offered, in five content areas: strategic management practices, performance measurement practices, tracking and managing performance trends, organizational structure and processes, and external stakeholder relations. As a demonstration, diagnostic report excerpts are provided for the first three content areas.

Strategic Management Practices

	Existing Conditions	Recommendations
Re-evaluation and Revision	EDOT's strategic goals and objectives are updated annually.	
Internal Stakeholders	EDOT reports that its overall strategic direction is based on input from all of its functional units and all levels of its organizational hierarchy.	Continue to seek diverse input from across the agency each time strategic goals and objectives are revised. Internal stakeholders are more likely to be satisfied with and invested in the outcomes of strategic planning when their opinions are included in the process.
External Stakeholders	EDOT collects feedback or otherwise receives input from 5 of its 7 defined external stakeholder groups; it lacks specific formal feedback from Business Community and Community Improvement Districts. According to existing information, the strategic goals and objectives defined by EDOT successfully address the needs and priorities of all key	Keep EDOT's priorities well-aligned with external stakeholders by collecting information about stakeholder needs and priorities on a regular basis and considering any recent changes in stakeholder opinion when the strategic goals and objectives are updated.

Performance Measurement Practices

	Existing Conditions	Recommendations
Developing Performance Measures	EDOT has created performance measures for all of its strategic goals and 80% of its strategic objectives. The 1 objectives missing performance measures are 'Increase access to transit'. Performance measures are re-evaluated on a rolling basis, with 2 measures being examined each month.	Develop performance measures for those objectives without them ('Increase access to transit'). Moving forward, continue to review EDOT's suite of performance measures regularly. This ongoing process will help to keep strategic management and performance management aligned, thereby enhancing both efficiency and effectiveness.
	Performance measures tend to be numerical; all of EDOT's strategic goals and all of its strategic objectives that have performance measures also have numerical measures.	Consider the following important decision making areas: 'Safety', 'Decrease bike/ped incidents', 'Mobility', 'Customer Satisfaction' and 'Employee Retention'. Identify important outcomes related to each area. Ensure that EDOT has information about these outcomes in order to define the 'context' for desired performance. Next determine how EDOT directly or indirectly influences each or any of these outcomes. Redevelop existing performance measures or develop new performance measures that track important inputs, outputs, and possibly the efficiency of EDOT's functions and processes, which have verifiable influence on the identified outcomes. Finally, identify existing or needed data to evaluate performance according to the newly defined measures.
	Performance measures tend to provide actionable information; all of the goals and all of the strategic objectives (for which EDOT has developed performance measures) are also linked with at least some strategies or actions that can be taken to improve measured performance. There is room for improvement in 5 decision making areas: 5 for which performance measures are only sometimes or somewhat linked with actions.	
Data Availability	Although all of the goal areas and all of the objectives for which EDOT has created performance measures are supported with data, accuracy is uncertain or insufficient in some areas.	Performance management requires that important decisions are informed by reliable information. Review the availability and sustainability of data each time that performance measures are re-evaluated.
Collecting Data	EDOT currently collects more data related to 'Mobility' and 'Employee Retention' than it uses for performance measures. Based on expected funding projections, EDOT will be able to continue collecting some of its currently available data indefinitely. However, data availability may be at risk for 'Decrease bike/ped incidents'	Determine whether or not EDOT may be able to conserve resources by decreasing data collection efforts related to 'Mobility' and 'Employee Retention'. Next time performance measures are reviewed in these areas, determine if the unutilized data can be used for actionable performance measures. If not, consider reducing data collection if this can save costs.

Tracking and Managing Performance Trends

	Existing Conditions	Recommendations
Defining Trends, Targets, and Time Frames	EDOT has defined desireable trend directions for some of its performance measures. However, not all defined target values are associated with desireable time frames for achievement. Only some of the targets associated with 'Safety' have associated time frames.	There are three probable reasons that an agency or functional unit may fail to meet some of its targets: (a) the targets were not based on reasonable assumptions regarding available funding, technological capacity, or human resources, (b) something has changed since the targets were set, which blocked achievement, or (c) the agency has not done everything in its power to achieve the targets. Staff and other resources should be assigned to identify why an agency or functional unit may fall short of its targets. For those targets that are not achievable because of reasons (a) or (b) above, revise the target. For those targets in which performance has fallen short because of reason (c), develop new strategies to improve performance, by working with the division(s) responsible for each particular target.
Achievability	EDOT is confident that it can achieve some of its performance targets; however, it expects to fall short of others. Based on current projections, EDOT is at risk of not meeting at least some of its targets in 'Maintain travel speeds on key routes' and 'Employee Retention'.	
Internal Participation	9 of EDOT's 10 functional units participate in performance measurement processes that are tracked by PM Staff, taking "ownership" of measures that are reported to external stakeholders. At least 7 units also use their own internal measures and/or targets, and it is unknow if others may do so. 8 functional units conduct analysis using performance information and at least 4 use performance measurement information in regular decision making processes.	Increase the level of communication between PM Staff and functional units throughout the agency in order to (a) learn about the internal performance management processes in each functional unit that employs them, and (b) to share this learning with other units. EDOT, as a whole, may be able to learn from the performance management processes of its various functional units in order to increase efficiency.

Acknowledgement and Reference: The Tool referenced here was developed as part of *Transportation Asset Management and Risk Review*. The final report associated with this project, *"Leading Practices in Organizational and Transportation Systems Performance Management Volume I: State DOT Benchmarking Study"*, is currently under review in GDOT's Office of Organizational Performance Management. The Interactive Self-Diagnostic Tool is in its final stages of review and refinement, and will be finalized with the study report.