

PERFORMANCE MEASURES IN THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

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BACKGROUND OF PERFORMANCE MEASURES

In the early 1980's the Pennsylvania Department of Transportation (PennDOT) embraced the concept of Management by Objectives and developed a series of measures and management reports to track organizational performance. Three major reports were devised: 1) The Executive Summary (Blue Book) tracks approximately 300 measures and are reviewed monthly at the Secretary of Transportation's Executive Staff meeting; 2) The District Summary (Green Book) tracks highway design, construction and maintenance activities in each of the eleven engineering districts; 3) The County Summary (Red Book) tracks highway maintenance activities in each of the 67 counties located throughout the eleven districts.

About this same time we developed a system to measure county highway maintenance performance which we refer to as the "County Accreditation Review System (CARS)." This system consists of approximately 20 measurable activities performed in every county and they are weighted and scored on a five-point scale. The measures address personnel issues, equipment management, field operations and office operations. The results are published annually.

In the mid-eighties we successfully measured personal productivity in our maintenance garages and made several cosmetic and ergonomic changes which impacted on our garage efficiency. We attempted to measure overall productivity in our highway maintenance operations, but our reporting systems were designed to track inputs and inventory, rather than outcomes. To achieve the goals of the study would have required a major upgrading of our maintenance reporting systems.

DEVELOPMENT AND GROWTH OF PERFORMANCE MEASURES

In the late eighties PennDOT piloted a matrix measurement concept developed by the Oregon Productivity Center, the "Organizational Performance Index (OPI)." This tool provides the ability to track our performance regularly and determine if we are making improvement based upon some predetermined indicators.

With our successful implementation of OPI we modified the concept in the early 1990's and applied it to measuring customer satisfaction. We now use the Customer Service Index (CSI) throughout the Department to measure our performance as determined by our customers.

CUSTOMER SERVICE INDEX

Why measure customer satisfaction?

- If you don't measure it, you can't improve it.
- It allows you to benchmark.
- It provides the opportunity to set goals and direction.
- It helps you justify your resources and your existence.
- Provides feedback to employees.

The Customer Service Index (CSI) is a tool for all PennDOT managers and employees at every level to monitor and evaluate customers' perceptions of their Service Delivery System. The Service Delivery System is defined as all the components, physical and procedural, that people have at their disposal to meet their customers' needs. An example of the relevance CSI would have to certain areas of PennDOT would be how our customers are affected by county maintenance activities (*maintenance, roadside rests, etc.*). Also internally, how well support Bureaus (*Fiscal, Personnel, Office Services, etc.*) provide services to each other and us.

CSI is based on a matrix - a diagram of rows and columns. The rows and columns represent measures that portray customers' perceptions. The measures are established in a combined effort of managers, employees, and customers. The computed index numbers are used to gauge the relative change in a quantity. The index is used to track trends and significant changes in needs and perceptions.

The CSI process is a 3 Stage process with 15 Steps.

Stage 1, Laying the groundwork	6 Steps
Stage 2, Building the matrix	6 Steps
Stage 3, Using the matrix	3 Steps

In Stage 1, the following steps are followed:

1. Create a Vision
2. Determine a Mission
3. Identify Goals and Objectives
4. Identify Customers
5. Identify Products and Services
6. Identify Moments of Truth

In Stage 2, the matrix is built by following the 6 steps listed below:

7. Identify preliminary measures
8. Clarify measures with customers
9. Assign weights to measures
10. Determine current performance through customer surveys
11. Establish long range goals for the measures
12. Complete the matrix

In stage 3, the last three steps are:

13. Determine periodic performance and post and share the matrix
14. Review results
15. Determine the need for and implement process improvement strategies to improve customer service

PennDOT piloted the CSI in twelve of its 67 County Maintenance Organizations in 1994. Surveys were sent to 400 random customers in each of the 12 counties (4800 total - 21.2% response rate). Those items which our customers felt are important were:

Highways and Bridges

- Good ride quality
- Good winter maintenance services
- Visible traffic line paint
- Easily understood signing

Work Zones

- Adequate warning signs
- Minimal delays
- Clearly identified travel lanes

Services

- Prompt service
- Knowledgeable staff
- Courteous service

The first statewide survey was distributed in September 1995 in all 67 counties. Again 400 random samples were distributed (26,800 total - 32% response rate). While

results are county specific, statewide averages were: (on a scale of 1-5)

Highways and Bridges

- Ride Quality
 - Interstate 2.62
 - Traffic Routes 2.62
 - Secondary Routes 2.29
- Snow and Ice Removal 2.92
- Traffic Line Painting 2.95
- Directional Highway Traffic Signs 3.14

Work Zones

- Warning Signs 3.59
- Travel Lanes Clearly Identified 3.32
- Delays 2.70

County Services

- Promptness 2.91
- Courteous 3.33
- Knowledgeable Staff 3.15

In summary, CSI

1. Measures customer satisfaction;
2. Provides opportunities for Improvement; and
3. Creates customer-driven organization.

FUTURE DIRECTION OF PERFORMANCE MEASURES IN PENNDOT

In 1995 the Department invited 50 partners from all modes of transportation to attend our Strategic Planning Conference and ensure that our goals were customer focused. Out of this conference came eight major goals. To monitor these goals a new report was constructed in 1996. We overhauled the executive report known as the Blue Book. It no longer tracks performance by the 300 measures, but tracks achievement of the eight goals of the Department. The measures are more outcome based and customer driven.

The County Accreditation Review System (CARS) is going to be redesigned based upon customer feedback. Customers have already stated that traffic lines are important to them. With the current CARS we would rate the county on the quality of their lines, not taking into account that there are many others who contribute to the success or failure of the county's traffic line program. The future CARS will use the OPI concept and will identify the critical measure for each organization involved in the traffic line program. It will become readily

apparent which entity is pulling the aggregate score down and the appropriate attention and resources can be so directed. This will cause the Department to look at line painting as a Department responsibility, and not just the county. Of course, traffic line paint is only one example.

The Department is going to attempt once more to measure garage maintenance productivity by use of a fleet maintenance consultant.

The Department is beginning a proof-of-concept pilot with Lehigh University's Iacocca Institute to

implement the concept of "Agility and Virtual Organizations." This concept maintains that the Department would pursue virtual, i.e., temporary partnerships with whoever is required to meet the impending customer need. To do this will require us to become agile and to forge alliances quickly with minimal red tape. This concept, in its early planning stage, will lead to some measures we have yet to fathom.