

ONTARIO CENTRE FOR MUNICIPAL BEST PRACTICES

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Best Practice Summary Report

August 2004

Urban Transit – Strategic performance measurement system

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Practice Identification: Strategic Performance Measurement System

Case Study Municipality: City of Mississauga – Mississauga Transit

Key Word: Performance Measurement, Continuous Improvement

Benefits which resulted from adoption of this practice:

- **Work process efficiency gains**
- **performance improvement**

Description of the Practice in the Case-study Municipality

Mississauga Transit is a relatively large transit organization with 345 buses in the fleet and over 700 unionized operations and maintenance staff and 100 non-union employees. It is an operating division within the Transportation and Works department which is one of five departments in the City Corporation, the others being; Corporate Services, Community Services, Planning and Building and the City Manager's office.

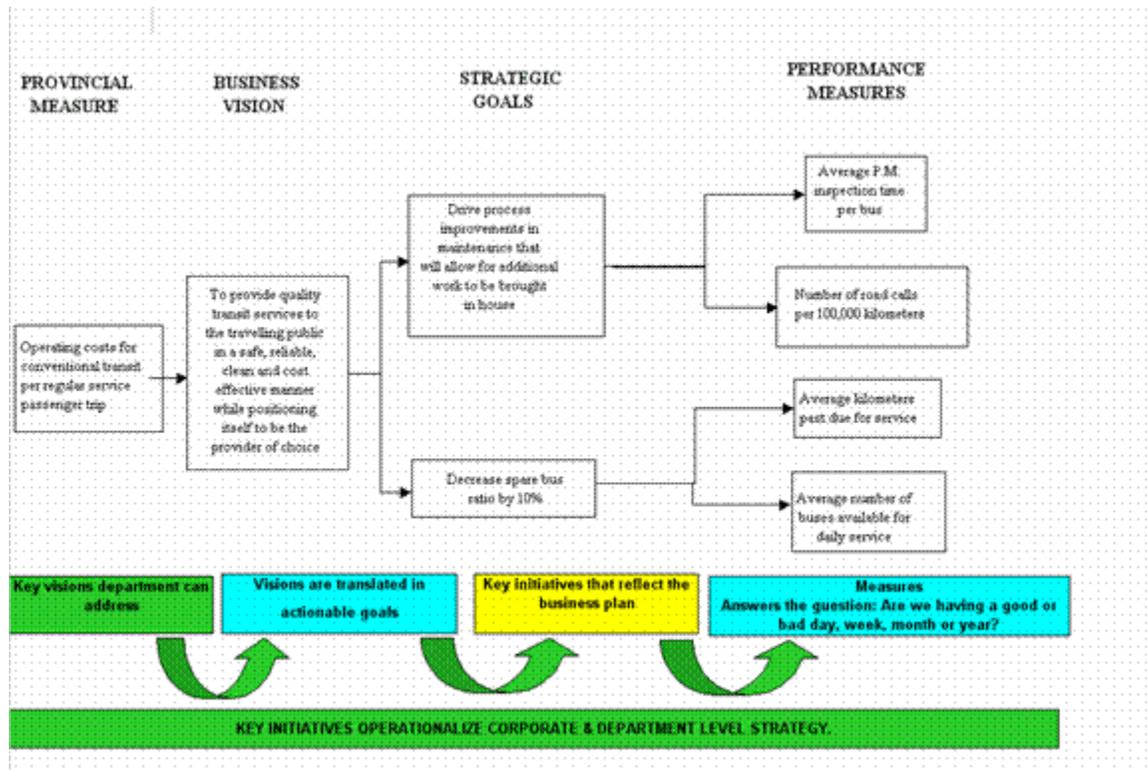
There are many internal and external organizational pressures which are currently, impacting the Transit organization. Internally, the City Corporation is trying to balance its budget without resorting to dramatic tax increases. As a result, divisions such as transit are faced with intense internal competition for funding in order to meet public service expectations. As well, the City Manager has initiated a Corporate Services review to develop a business planning approach to budget preparation. This involves gaining a greater understanding of the services which the City provides and to develop performance measures to track the efficiency and effectiveness of service delivery. Further, Transit senior management is interested in developing a mechanism to support the decision making process and improve the quality of information which is used in this process.

Externally, there are service improvement, alternative service delivery, legislative and accountability issues. Also, Transit faces pressure from the business community to consider contracting out internal services. Further, the provincial government has established performance measures for the transit industry which focus on operating costs per passenger trip and the number of passenger trips per year.

Mississauga Transit implemented a Strategic Performance Measurement System designed to track performance and alert management to problem areas before they become unmanageable. Mississauga's approach within the maintenance area created a bottom-up process that focused on key maintenance functions and employee involvement. The system was designed to promote effectiveness and efficiency on the shop floor and to measure that performance, as opposed to a top-down model, which derived work processes from one overall strategic plan (see London report).

Figure 1 shows how strategic initiatives were developed and then aligned with the performance measures. This provided management with a tool which allowed them to monitor progress towards a common organizational goal. Without such a process it was difficult to evaluate how successful the organization had been. Further, it established a system which helped to drive organizational improvement with the involvement of all employees.

Figure 1: Maintenance Performance Measurement Map



The Strategic Performance Measurement System which was implemented in Mississauga Transit’s vehicle repair business unit affected the work of over fifty employees in two different garage locations and over three different shifts.

Development of this system was accomplished in four phases. In the first phase mechanics worked with management in developing the performance measurement system. The second phase senior management established strategic goals and aligned the measures towards these goals. The third phase involved establishing continuous improvement teams and the fourth phase established a Performance Measurement Dashboard system to manage business unit performance.

Phase 1 - Developing Measures

Development of the actual performance measures was initiated through a number of information sessions with employees where they were given a formal presentation of the proposed performance measurement system envisioned for the vehicle repair area and allowed an opportunity to ask questions. The information gathered at these sessions was useful in creating the measures and it also helped to prepare employees for any future changes.

Traditionally auto mechanics have been evaluated based on meeting predetermined time standards for work. The measures used in the new system

were represented by a statistical score which calculated the amount of time taken to complete an activity divided by the number of jobs completed. The activities which were measured represented the most predominant work activity such as preventative maintenance. The measurement scores were tallied and grouped by bus type and shift. The scores were then charted on a graph which was posted on the shop floor. In this way, group performance was tracked by shift over time and visible for all employees to see.

Phase 2 - Strategic Goals

The second phase involved establishing strategic goals to be accomplished over the next year and aligning the measures towards these goals. The Provincial Municipal Performance Measurement Program measures of cost per trip and passengers per capita were used as the starting point.

From the Provincial measures a number of strategic goals were established. The first goal was to drive process improvements in maintenance which would allow for improved reliability of the fleet. The second strategic goal was to decrease the spare bus ratio by 10 percent. The performance measures were then aligned with these strategic goals and cascaded throughout all levels of the organization. This allowed management to monitor their success in achieving the goals which they had set for the organization.

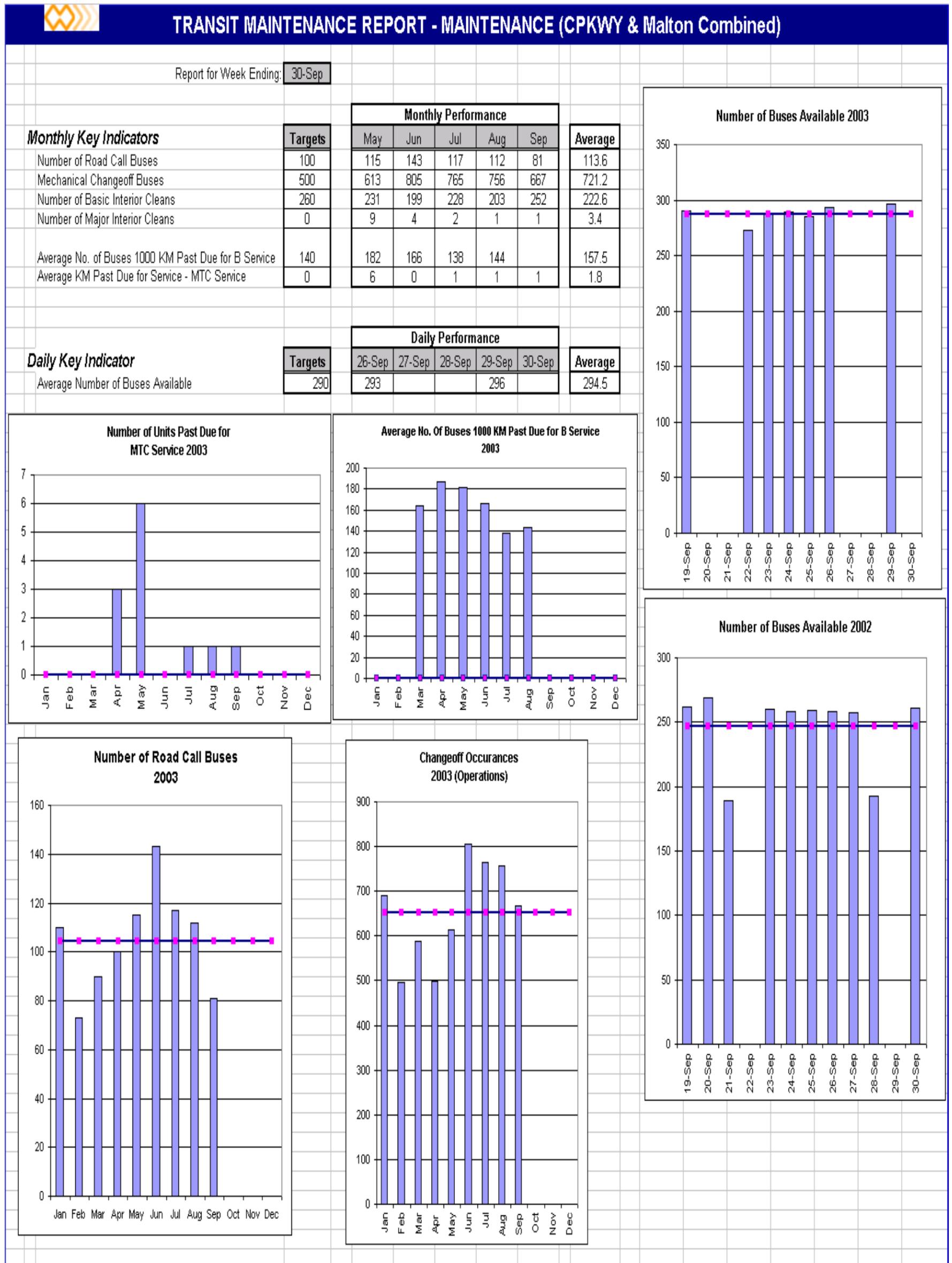
Phase 3 - Continuous Improvement

Once the goals and measures were established the final phase of the process was creating continuous improvement teams. Representation for these teams consisted of selected mechanics and members of management. Each shift had their own continuous improvement meeting. This was important to capture the issues indigenous to each shift. The groups used quantitative information which was collected in phase one which was then prioritized and categorized into various operational categories. The tone of the meetings was objective and neutral which helped to facilitate a productive and cohesive environment for problem solving with the focus being put on the nature of the problem rather than assessing blame.

Phase 4 - Performance Measurement Dashboard

Figure 2 shows the Performance Measurement dashboard system that was created to provide a collection of key operational and strategic measures. Examples of some measures for the Vehicle Repair business unit include; average number of kilometres past due for service, average number of buses available, and average p.m. inspection time per bus. These measures are collected monthly and the graphs display variation around an established target. This statistical information flags performance which is above or below average and whether strategic goals are on target to be met. Decision makers can then analyze the data further to determine what action should be taken.

Figure 2: Performance Measurement Dashboard



Evaluation of the Practice

The performance measurement system which has been implemented at Mississauga Transit has generated results to date of a reduction of 1/2 an hour on average for completion of a B inspection which is a regularly scheduled maintenance checkup and a reduction of 1 1/2 hours on average for completion of the Ministry of Transportation Ontario (MTO) inspection which is a provincially mandated bi-annual maintenance inspection. This has resulted in an annual saving of \$100,000 to date.

Implementation of this system has resulted in numerous improvements on the shop floor such as creation of brake tool carts to improve brake work efficiency and brake part kits to improve workflow efficiency. Further, the system has helped focus management on establishing key strategic goals such as driving process improvements in maintenance which will allow for improved reliability of the fleet, and decreasing the spare bus ratio by 10 percent.

Recently, the Strategic Performance Measurement System has been implemented in other key Transit business units including Operations, Service Development and Business Development resulting in cascading measures throughout all levels of the organization. As a result of these successes, the strategic performance management framework was awarded the City of Mississauga's 2001 corporate award of excellence in continuous improvement. This is an annual award given by the Mayor and City Manager for excellence in public administration.

Mississauga's 2002 MPMP result demonstrates below-average cost per transit passenger trip within its class of municipality.

Replication of the Best Practice

This approach can be replicated in virtually any transit system and municipality. Ideally suited to systems with higher levels of automation, manual tracking systems can also be used since the basic premise is to establish and track performance measures which reflect the key operations.

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