Wisconsin Department of Transportation

School Bus Inspection Lean Project Report

Project Summary

The Division of State Patrol (DSP) is responsible for inspecting all school buses annually to ensure the vehicles are in safe working condition.

The goals of this project were to reduce the time it takes to deliver inspection reports, increase data availability and increase customer satisfaction.

Using Lean Six Sigma methodology, the team achieved efficiencies by analyzing the current process, identifying waste and implementing an electronic inspection form to streamline the process.

This pilot project was completed on January 31, 2013.

Improvements

- Eliminated redundant data entry
- Increased data availability
- Reduced inspection process time by 80.2 percent for 2,500 buses taken out of service
- Reduced inspection process time 56.5 percent for 7,500 buses passing inspection
- Increased customer satisfaction by speeding up certification process by two to three days per inspection

MAPSS Core Goal Areas

- Safety
- Service

Statewide Goal Areas

- Customer satisfaction
- Cost of state government

Issue

The current inspection process for one school bus can take up to 14 days to complete, including two to three days for mailing inspection and certification reports. This puts school buses out of service for longer than necessary. Other disadvantages identified in the current process include:

- The use of paper reports
- Redundant data entry of inspection results and customer information
- Lack of readily available and searchable data
- Postage and paper costs.

Lean Six Sigma Process

The process improvement team described the current process and identified the major causes of delays in the school bus inspection process. Mailing documents was identified as a key factor resulting in excessive lead times within the process. Redundant data entry was also identified as a contributor to excessive process times.

Analysis of options determined that the solution should include an electronic inspection form capable of being emailed. An electronic form housed in a centrally located server will eliminate data re-entry and provide a searchable database.

Results

Reduced cost of government: The division inspects 10,000 school buses annually. Approximately 2,500 buses fail inspections and are placed out of service. Each school bus that has been placed out of service under the improved process takes approximately 22 minutes of process time, down from 111 minutes, an 80.2 percent reduction. For the other 7,500 buses that successfully pass inspection, the new process is reduced from 46 minutes to 20 minutes, saving 26 minutes per inspection, a 56.5 percent reduction. Total hours saved for all inspections translates to 6,958 hours saved annually within the division. The time savings will be reallocated to other law enforcement activities. Using an electronic form will also save DSP printing and postage costs of approximately $1,850 annually.

Increase customer satisfaction: The new process puts certified buses back into service faster. This would affect approximately 2,500 buses. School bus companies will also save postage costs by checking certifications electronically.

Next Steps

Full implementation is expected by July 2013. The improved process will be applied to other DSP inspections in the future, such as ambulance, motor coach and human service vehicles.