Wisconsin Department of Transportation

Post Crash Inspection Process Lean Project Report

Project Summary

Following a crash involving a commercial motor vehicle (CMV) in which individuals are injured or disabling damage occurs, Division of State Patrol (DSP) inspectors generally perform a post crash inspection of the CMV. In ten percent of these crashes, an additional inspector arrives on scene to download data from the vehicle's electronic data recorder (EDR) (also known as "black box").

The goals of this project were to reduce the time required to complete the inspection by 25 percent and reduce the number of steps it takes to complete the process by 25 percent.

The team took into account concurrent DSP process improvement activities in data collection (e.g., standardized worksheets and training).

Improvements

- Reduce inspection process time
- Ensure standardization of data collected through newly implemented post-crash worksheets for Inspectors.

MAPSS Core Goal Areas

- Accountability
- Safety

Statewide Goal Areas

- Employee work environment
- Cost of state government
- Customer satisfaction

Issue

The post crash inspection process for commercial motor vehicles (CMVs) can take up to eight hours to perform. Inspectors who are called out may not have the appropriate tools to complete the inspections (i.e., calipers and level) and must wait for a set to be located and then relayed to the crash scene. In cases where data must be downloaded from a CMV's electronic data recorder (EDR) a second specially trained inspector must be called out and specialized software located and relayed to the scene. This results in unnecessarily long road closures.

Lean Six Sigma Process

The team, comprising WisDOT Leadership Development Program participants, used value stream mapping to document the current process and identified the major causes of delays in scene clearance:

- Lack of access to tools – not all inspectors are equipped with a caliper and level necessary to take measurements.
- Unnecessary data collection/lack of standard data collection.
- Wait times for EDR trained inspectors/software to arrive on scene.

The team identified areas for process improvements:

- Equip all post crash inspectors with caliper and level at a total cost of approximately $2,000.Continue on-going implementation of standardized and shortened worksheets for data collection/ training.
- Note: there was a recommendation from the group to see if adding another EDR to the Southeast region would save time and money. It was determined that the cost to purchase an additional EDR would be prohibitive, and only save about $1600 per year.

Results

Employee Work Environment: Inspectors inspect close to 500 CMV crashes each year. Under the proposed improvements, we estimate that scene clearance time for CMV post crash inspections will be reduced by 21 percent. Each minute saved reduces the risk of secondary accidents and increases inspector safety.

Reduced staff time: We estimate that reducing scene clearance time will result in a 17 percent reduction in staffing time devoted to CMV post crash inspections which can be redirected to other mission critical activities.

Increase customer satisfaction: While road closure time depends on factors outside of DSP's control (e.g., tow truck availability), the new process will likely reduce road closure times. It is estimated that each hour of traffic congestion costs Wisconsin drivers and businesses $20 for each auto and $70 for each CMV due to extra travel time and fuel consumption.[i]

Next Steps

Distribute calipers and levels to all reconstructionists and provide training. Continue to track savings from use of new, standardized forms.

[i] Texas Transportation Institute, "2011 Annual Urban Mobility Report," Texas A&M Transportation Institute, 2011.