EVALUATING THE SUCCESS OF BEHAVIOR BASED SAFETY METHODS

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The Federal Railroad Administration (FRA) has sponsored a project to evaluate whether an approach (Clear Signal for Action, CSA), that combines behavior-based safety, continuous improvement and safety leadership, can improve safety in the railroad industry. In CSA workers provide each other with confidential, non-confrontational feedback during work and collect observational and other data. This data is used in continuous improvement activities to prevent similar unsafe conditions and behaviors from occurring. Finally, managers are trained to support CSA. The specific CSA program chosen was the Behavior Accident Prevention Process®, which was developed by Behavioral Science Technology Inc.

Three pilot sites, representing distinctly different work environments, are in the project: baggage handlers at Amtrak's Chicago terminal, road crews at Union Pacific's (UP) San Antonio Service Unit, and yard switching crews at UP's Livonia Service Unit. This evaluation seeks to answer three questions: 1) is the CSA intervention at the pilot implemented as planned; 2) is the pilot successful at improving safety and safety culture; and 3) what are the characteristics of an effective CSA implementation in railroad settings? Interview, perception survey and company safety data (injury, accidents, performance field tests) were collected and analyzed. This presentation will be limited to findings from the Amtrak baggage handling and the UP road crew pilots because it is premature to report results from the switching crew pilot.

Amtrak Baggage Handlers. The improvement in safety was measured using company injury data. A straightforward before - after analysis found a statistically significant drop in injury rates occurred following employee training on CSA methods. Moreover, the number of worker-hours between injuries increased (more time between mishaps is positive) as the total number of observation-feedback sessions increased.

Union Pacific Road Crews. The improvement in safety was measured using observation data collected by workers, manager conducted Field Training Exercise (FTX) test results, and interview data from workers and managers. Analysis of the 2400 observations showed risky behaviors decreased between 40 to 70% over the 20 months the method was used. Additionally, FTX tests showed a significant increase in the number of test passes. Finally, interview data found that CSA improved safety practices and general safety awareness, and promoted personal responsibility for safety. This suggests that the CSA method, when implemented effectively, constitutes a promising strategy for improvements in safety levels and culture in railroad work settings.

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