



Lean 6-Sigma Program



Department of Transportation

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Sponsor)**

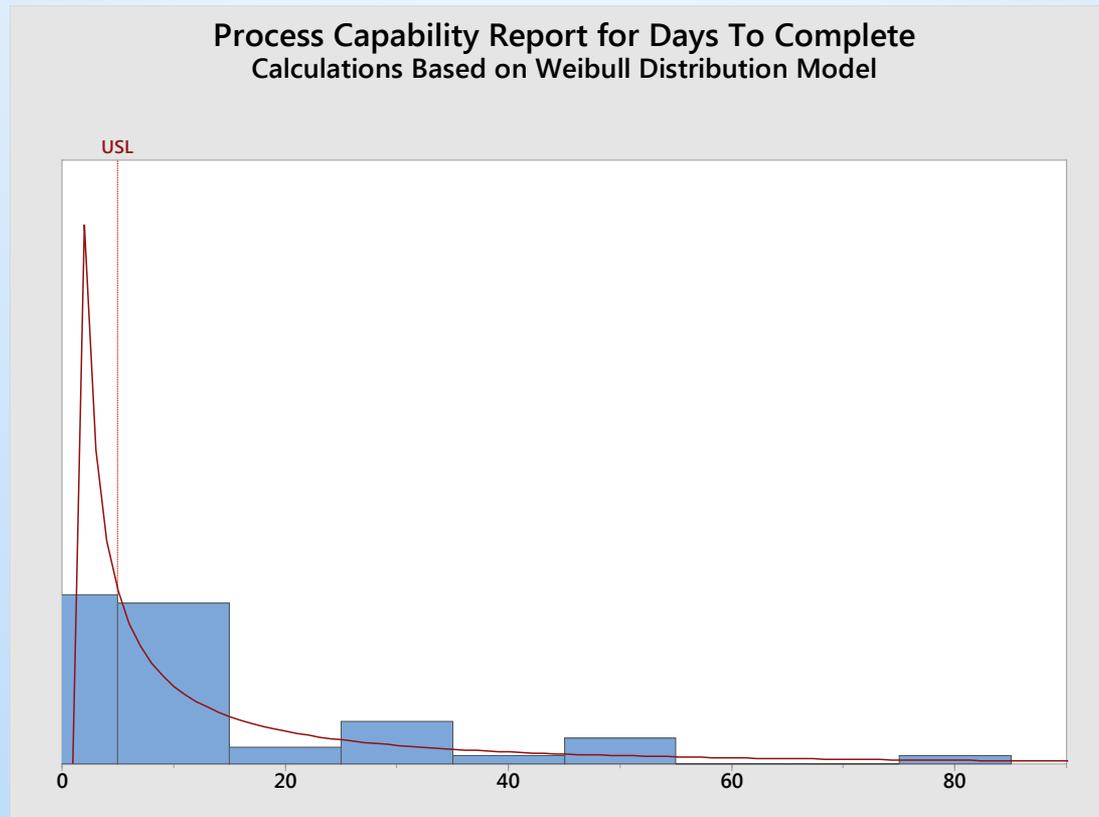


Workplace Violence Investigation Process

- ❖ **Problem Statement:** *Current timelines to conduct Workplace Violence investigation are too long. This creates a high level of frustration for the complaining party, as well as impacts morale and operations in the work unit and delays corrective measures if a violation of policy has occurred*
- ❖ **Objective:** *To reduce the number of days to complete a workplace violence investigation so that 95% of all investigations are completed in five (5) working days or less*
- ❖ **Project Team:**
 - ❖ *Cris Rojas – Champion*
 - ❖ *Julie Dunning – Green Belt*
 - ❖ *Ashley Glisan – Team Member*
 - ❖ *Lincoln Horst – Team Member*
 - ❖ *Lori Kirkendoll – Team Member*
 - ❖ *Randy Oleski – Team Member*
 - ❖ *Lucila Gonzalez – Team Member*
 - ❖ *Mike Tanner – Team Member*
 - ❖ *Premjit Rai – Team Member*
 - ❖ *Beverly Taylor – Team Member*
 - ❖ *Susan Elkins – Team Member*
 - ❖ *Sharilyn Fernandez – Team Member*

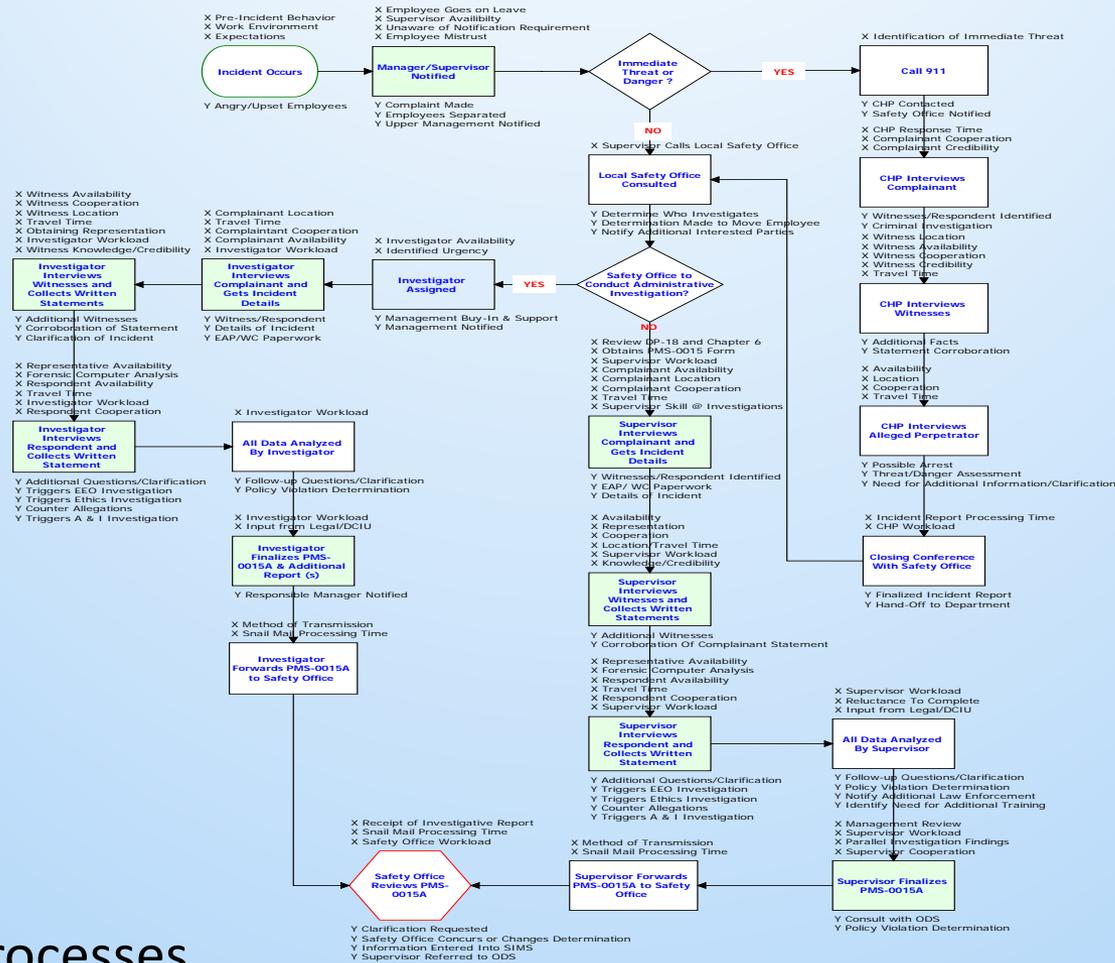


Baseline Capability



- ❖ Sample Mean – 13 days
- ❖ Sample Maximum – 78 days
- ❖ Observed Performance – 45% within 5 Working Days

Initial Process Map



❖ Parallel Processes

❖ Value Added Steps Are Highlighted in Green

Lean 6-Sigma Program



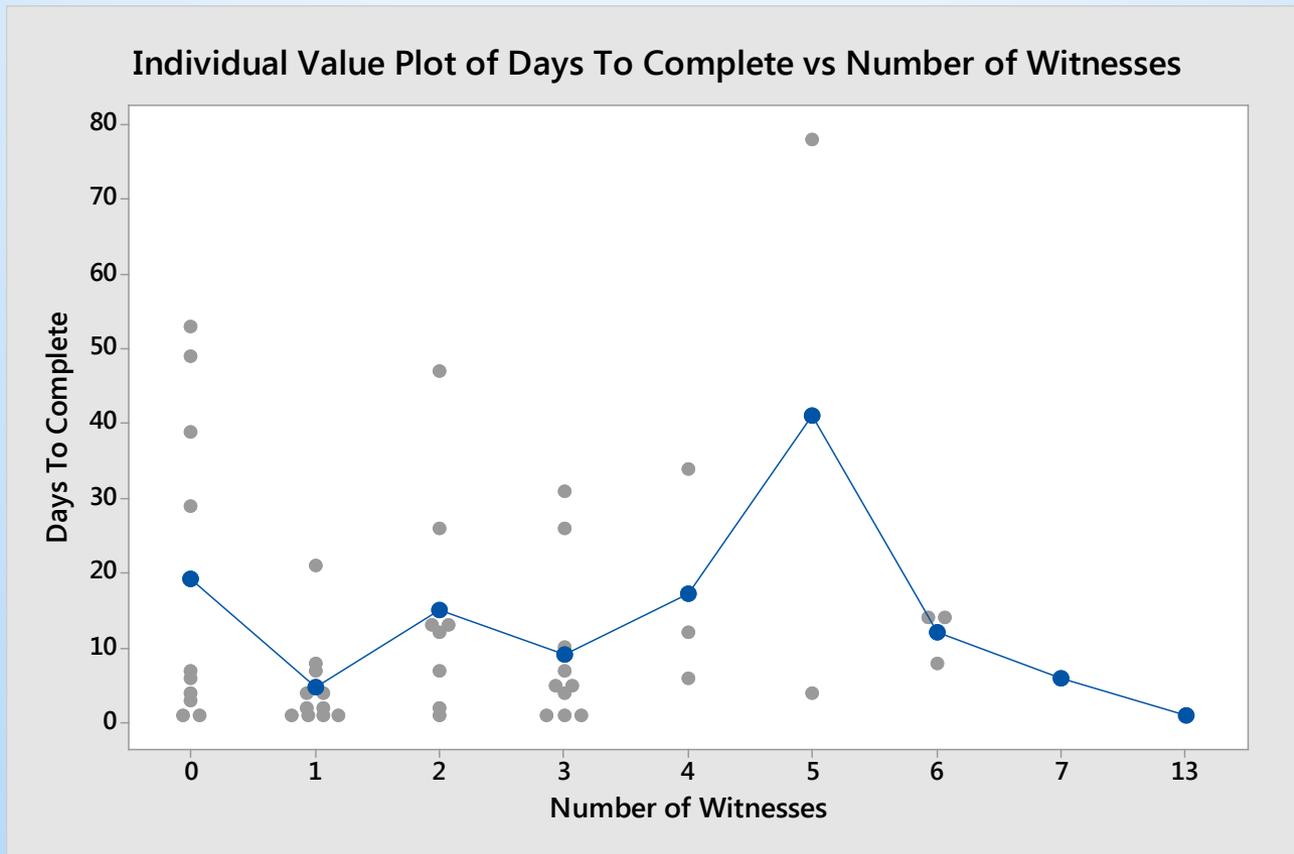
Analysis Tools

Tools Used to Determined Critical X's Include:

- ❖ Fishbone Diagram
- ❖ Capability Analysis
- ❖ Dotplots
- ❖ Boxplots
- ❖ Scatterplots
- ❖ Interval Plots
- ❖ Individual Value Plots
- ❖ Histograms
- ❖ Failure Mode and Effects Analysis (FMEA)
- ❖ Multi-variable Analysis
- ❖ Hypothesis Testing (Two Sample T-test, One-way ANOVA, Moods Median Test)
- ❖ Regression Analysis (Fitted Line Plot)

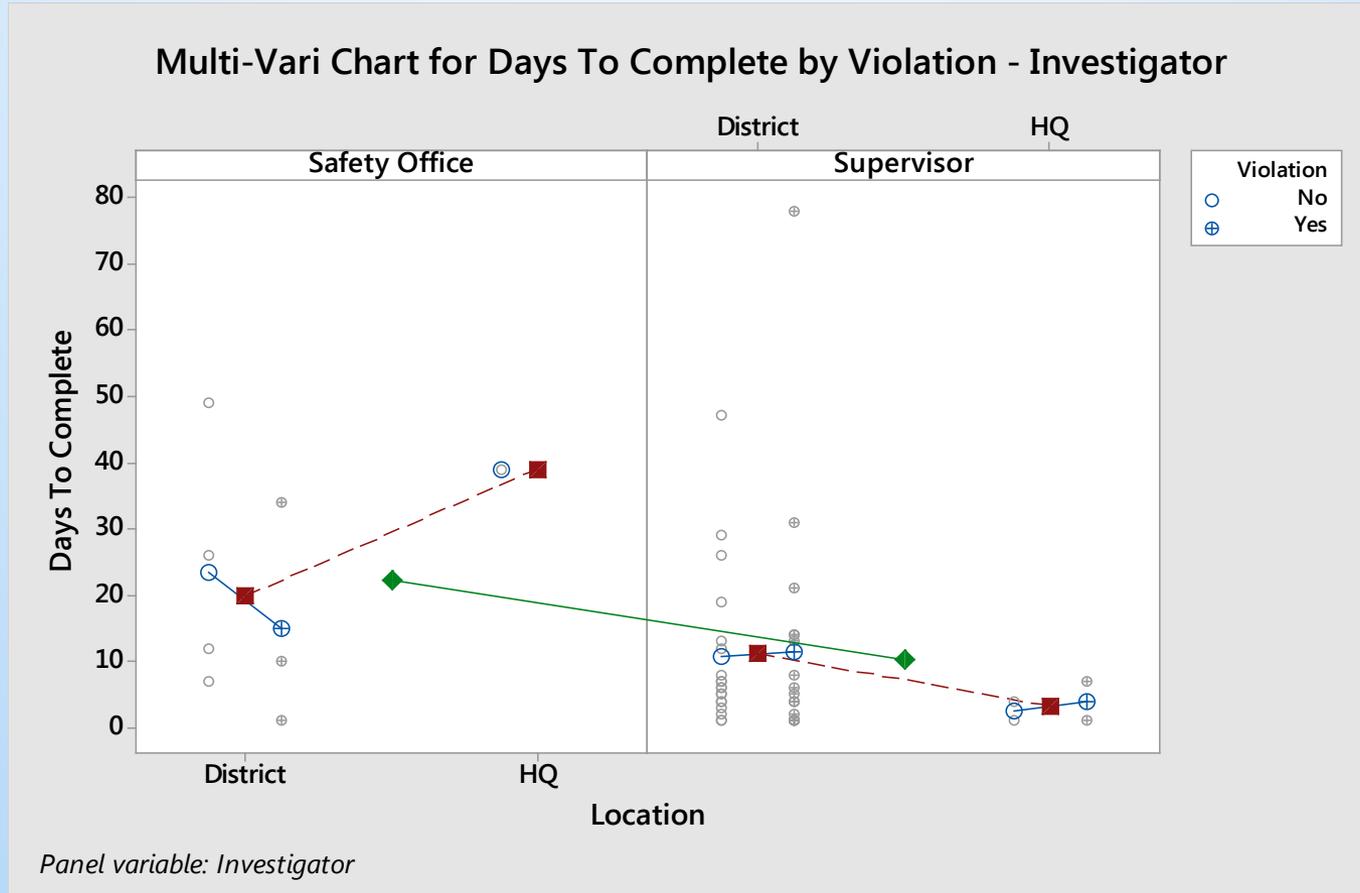


Key Analytical Finding 1



- ❖ No Correlation Between Number of Witnesses and Days to Complete the Investigation

Key Analytical Finding 2



- ❖ There is No Statistical Difference in the Time to Complete an Investigation Between HQ & Districts, or Between Supervisors & Safety Officers, Regardless of the Outcome (Policy Violation vs. Non-Violation)

Critical X's (root causes of problems)

Critical X's as Identified Through Use of Analysis Tools:

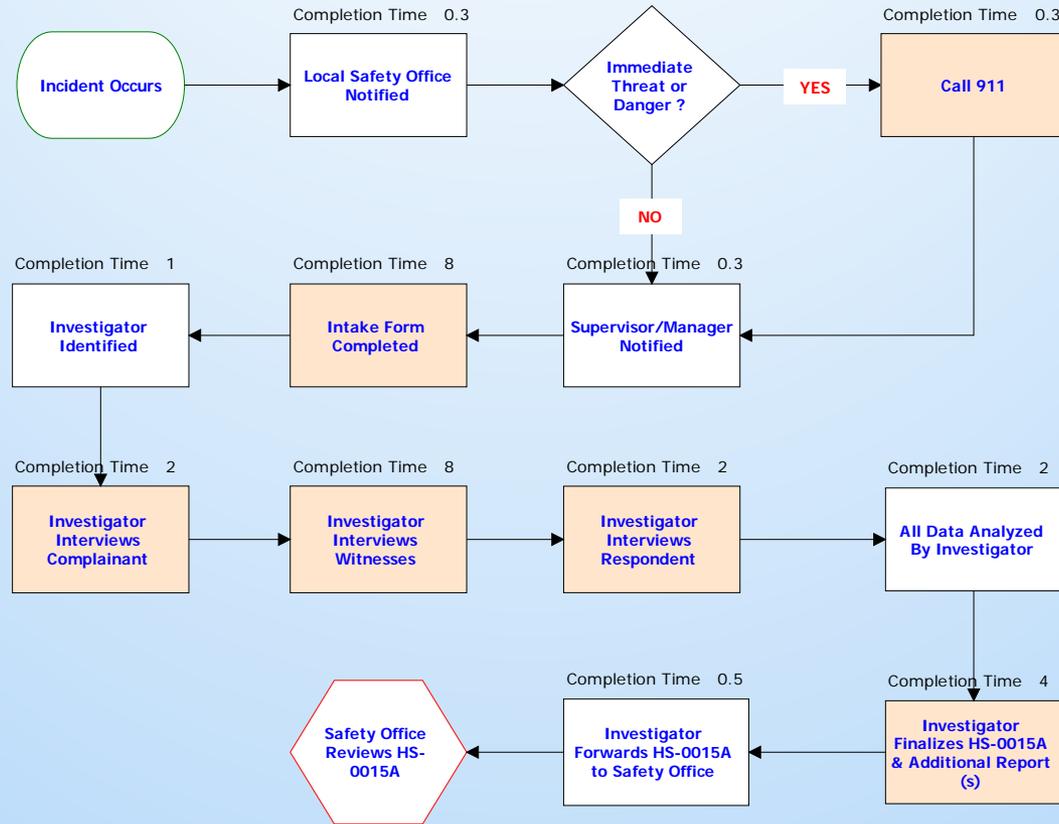
- ❖ Lack of Standard Procedures
- ❖ Lack of Defined Timelines
- ❖ Lack of Guidelines for Conducting An Investigation
- ❖ Lack of Training
- ❖ Lack of Tracking Key Milestones in Process



Improvement Techniques

- ❖ Eliminate “Non-Value Added” Process Steps
- ❖ Establish Standard Work Processes
- ❖ Update Director’s Policy DP-18 “Workplace Violence Prevention”
- ❖ Update Chapter 6 of Department Safety Manual “Workplace Violence Prevention Program”
- ❖ Create New “Intake” Form
- ❖ Revise “Workplace Violence Investigation Form”
- ❖ Update “Workplace Violence Prevention” Training for Supervisors and Managers
- ❖ Develop Guidebook and Training on How to Conduct a WPV Investigation
- ❖ Update Safety Information Management System (SIMS) Database to Track Key Data Points

New Process Map

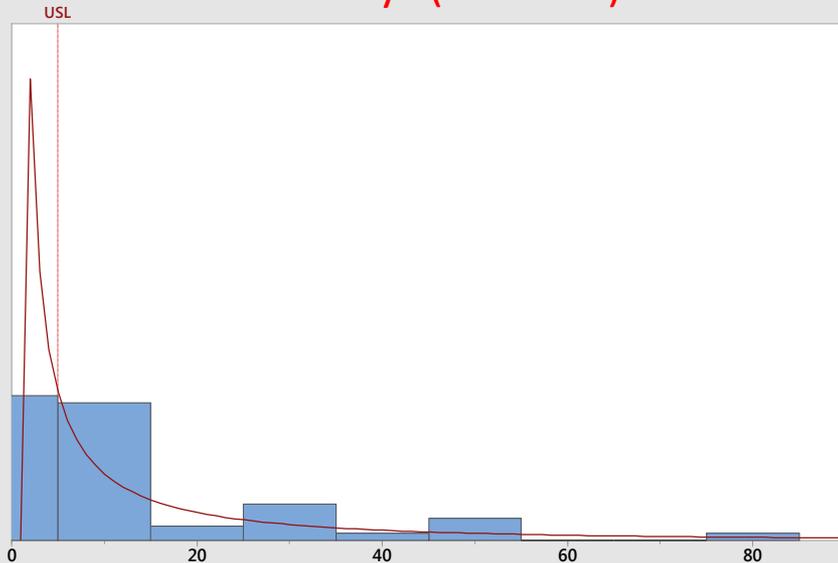


- ❖ Process Steps Were Eliminated (Non-Value Added)
- ❖ Process Steps Were Re-Ordered
- ❖ Process Times Were Established

New Capability Analysis

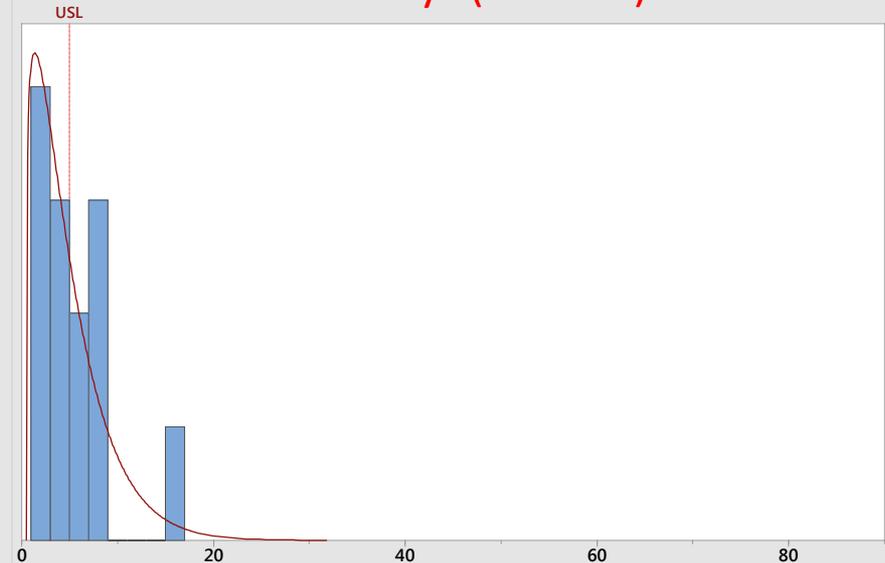
Process Capability Report for Days To Complete
Calculations Based on Weibull Distribution Model

Total Days (Baseline)



Process Capability Report for Working Days To Complete
Calculations Based on Weibull Distribution Model

Total Days (Current)



- ❖ Pilot Mean – 5 Working Days
- ❖ Pilot Maximum Working Days – 16
- ❖ Pilot Performance – 70% Within 5 Working Days
- ❖ Projected Performance With All Improvements – 95% within 5 Working Days



Control Plan

Control Elements Include:

- ❖ Standard Operating Procedures – Chapter 6 of Safety Manual and DP-18
- ❖ Mistake Proofing – Update training and require refresher training bi-annually with Real-time Guidance to Manager & Supervisors During Investigation
- ❖ Real-Time Monitoring - Safety Office to Communicate to Investigator Throughout Investigation to Ensure Investigation Is Moving Forward
- ❖ Tracking WPV Prevention and Investigation Training for Managers & Supervisors
- ❖ “Days To Complete” to be Evaluated Quarterly Using I-Chart to Ensure Process is Within Statistical Control Limits



Additional Benefits

Expedited Completion of WPV Complaint Investigations Will:

- ❖ Improve Employee Morale
- ❖ Allow Supervisors to Take Corrective Actions More Quickly When Necessary
- ❖ Lessens Potential for Repeat Offenses
- ❖ Potentially Result In A Cost Savings By Limiting Department Liability In Stress Claims And Potential Civil Suits



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