

Welcome and Introductions

Process Overview

Systems Engineering “V”

Cross-Cutting Activities

Applying SE to a Project

Establishing SE in your Organization

Process Improvement Discussion

Wrap Up

# Session 7: Process Improvement Discussion

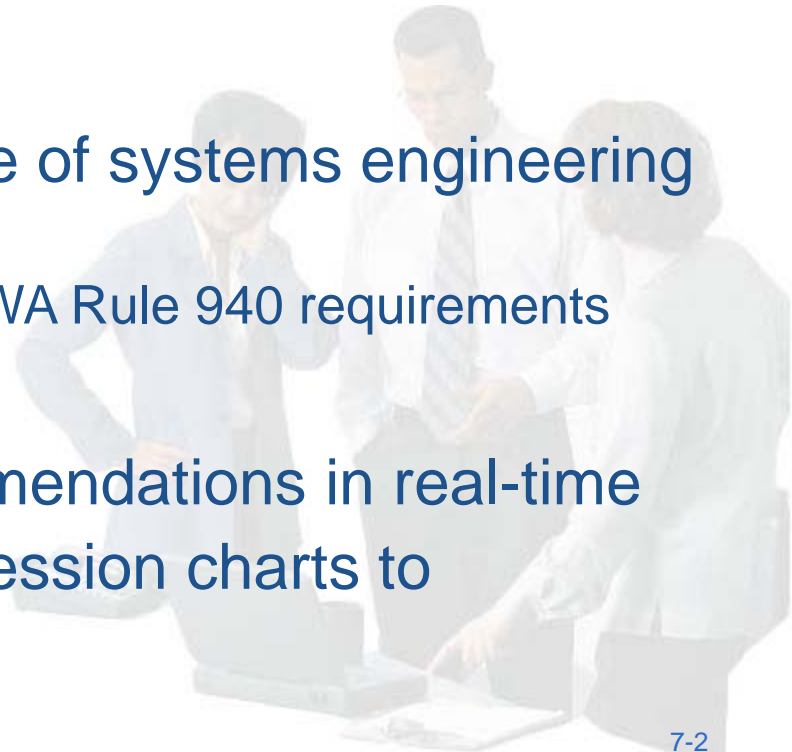


These materials developed under the RITA  
National ITS Architecture Program



# Process Improvement Discussion

- This is an interactive discussion session to
  - Review use of systems engineering in your current project development processes
  - Discuss opportunities for better use of SE in project development
- Objectives
  - Encourage more productive use of systems engineering on ITS projects
    - And improve compliance with FHWA Rule 940 requirements
- Deliverable
  - Capture observations & recommendations in real-time
  - Deliver electronic copy of the session charts to participants afterwards





# General Process Improvements

- Overall project development process...





# Technical Process Improvements

- Technical project development processes, including Rule 940 requirements...





# Project Management Process Improvements

- Project planning, monitoring, and control...





# Support Environment Improvements

- Supporting activities and tools...





# Process Improvement

## *Moving from Chaos to Discipline*



Random motion – lots of energy, not much progress

Individual effort

Frequent conflict

You never know where you'll end up

Directed motion – every step brings you closer to the goal

Coordinated efforts

Cooperation

Predictable results

**Processes can make the difference**



# Process Improvement Benefits



Improvements	Median	# of Studies	Low	High
Cost	34%	29	3%	87%
Schedule	50%	22	2%	95%
Productivity	61%	20	11%	329%
Quality	48%	34	2%	132%
Customer Satisfaction	14%	7	-4%	55%
Return on Investment	4.0 : 1	22	1.7 : 1	27.7 : 1

Collected by Software Engineering Institute for CMMI, August 2006



# Process Improvement in your Organization



- Near-term tactical effort
  - Collect lessons learned from your last project
  - Improve your process to avoid problems on your next project
  - “Solo Process Improvement”
- Long-term strategic effort
  - Build on near-term successes
  - Gradual introduction
    - Start with processes with greatest impact on the bottom line
  - Enlist senior management support
    - Must support organizational goals
    - Must be able to measure progress

