The Safety Challenge

• Five major accidents since 2015
  • Trains 188, 89, 506, 501, 91

• Customer and employee fatalities and serious injuries
  • Too many

• NTSB Report (November 2017)
  • “…a deficient safety culture at Amtrak.” (p. 62)
Amtrak’s Safety Strategy

1. Implement Safety Management System at Amtrak
   • In advance of regulatory requirement
   • Be an industry leader
   • Learn from other industries (aviation, healthcare, etc.)

2. Implement PTC and drive for PTC-equivalency in non-PTC territory
   • Passenger rail service should be 100% PTC compliant
   • Be an industry leader
   • Where PTC won’t exist use SMS to chart path towards PTC-equivalency

3. Use data and technology to improve safety
   • Train safety data – every train, every trip, every day
SMS Overview

• Safety Strategy
• Safety Policy
• Safety Goals and Initiatives
• 49 CFR 270 System Safety Program Plan

• Risk Management Process
• Tools for Risk Analysis
• Risk Assessment Templates
• System Safety Working Groups

• Just Culture
• Enhanced Training
• Voluntary Reporting
• Recognition

• Safety Assurance Process
• Verify Compliance
• Measure Effectiveness
• Accident/Incident Investigation
Safety Policy

• We must be America’s safest passenger railroad.
• All employees are empowered to stop an operation if an unsafe conditions exists.
• We will operate at the highest level of safety – by exceeding regulatory standards.
• We will proactively identify and mitigate risk, based on data.
• We will become a learning organization where safety self-reporting is encouraged.
• We must not tolerate intentional disregard for safety or reckless behavior.
Risk Management

• Targeted Risk Assessments and Mitigations
  • Track segments with a Main Line Track Exclusion Addendum
  • Commuter operations on an approved alternate schedule for PTC
  • Track segments experiencing signal suspensions
  • Grade Crossings

• Risk Management Process
  • Proactive Identification
  • Probability/Severity Analysis
  • Assessed and prioritized
  • Effective mitigations
Grade Crossing Risk Assessments

• Partner with the FRA, Host Railroads, States/Cities to
  • Perform data analysis to prioritize Grade Crossings
  • Research crossing configuration, mitigations in place, train ops, etc.
  • Perform analysis to identify risks
  • Assess the likelihood of experiencing identified risks and anticipated severity
  • Develop and implement corresponding mitigations

• State Street Crossing – Springfield, MA
Safety Assurance

- Oversight that verifies compliance and measures effectiveness
  - Standardized Accident/Incident Investigations Process
    - Based on Root Cause Corrective Action (RCCA) methodology
  - Enhanced Efficiency Testing
    - Opportunities for improvement identified based on enhanced data collection and analysis
  - Internal Evaluation Program
    - Examining Amtrak’s critical safety programs
Safety Promotion

- A Just Culture recognizes that we all make mistakes and the organization learns from those mistakes, however, a Just Culture has zero tolerance for reckless behavior.

<table>
<thead>
<tr>
<th>Human Error</th>
<th>At-Risk Behavior</th>
<th>Reckless Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inadvertent action:</strong> slip, lapse, mistake</td>
<td><strong>A choice:</strong> risk not recognized or believed justified</td>
<td><strong>Conscious disregard of a substantial and unjustifiable risk</strong></td>
</tr>
<tr>
<td>Manage through changes in:</td>
<td>Manage through:</td>
<td>Manage through:</td>
</tr>
<tr>
<td>• Processes</td>
<td>• Removing incentives for at-risk behaviors</td>
<td>• Remedial action</td>
</tr>
<tr>
<td>• Procedures</td>
<td>• Creating incentives for healthy behaviors</td>
<td>• Disciplinary action</td>
</tr>
<tr>
<td>• Training</td>
<td>• Increasing situational awareness</td>
<td></td>
</tr>
<tr>
<td>• Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Behavioral Choices</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accept /Console</strong></td>
<td><strong>Coach</strong></td>
<td><strong>Sanction</strong></td>
</tr>
</tbody>
</table>
Safety Culture Continuum

- **Reactive**
  - Safety by natural instinct
  - Compliance is the goal
  - Delegated to safety manager
  - Lack of management involvement

- **Dependent**
  - Management commitment
  - Condition of employment
  - Fear of discipline
  - Roles and procedures
  - Supervisors control, emphasis and goals
  - Value all people
  - Training

- **Independent**
  - Personal knowledge, commitment & standards
  - Internalizing
  - Personal value
  - Care for others
  - Practice and habits

- **Proactive**
  - Help others conform
  - Other’s keeper
  - Networking contributor
  - Learning organization

Accident and Injury Rates

Natural Instincts  Supervision  Self  Teams
Hurdles to Overcome

• Engaging all our employees in the change
• Becoming a learning organization
• Encouraging voluntary self reporting
• Overcoming our (and the industry’s) ‘name and blame’ history
• Creating a ‘Just Culture’ by learning to:
  • Accept and learn from mistakes
  • Coach at-risk behavior
  • No tolerance for intentional disregard of safety and reckless behavior
SMS Roadmap

**Safety Policy**
- FY2018: Safety Policy Revised to reflect SMS
- FY2018: Baseline Safety Metrics Established (Tiers 1/2)
- FY2018: SMS Strategy approved by Amtrak Board of Directors

**Risk Management**
- FY2018: Risk Assessment Tools Established
- FY2018: Non-PTC Risk Assessments Initiated
- FY2018: Signal Suspension Risk Assessments Initiated
- FY2019: SPARTN Oversight Tool Launched

**Safety Assurance**
- FY2019: Complete non-PTC Risk Assessments
- FY2020: Establish Risk Management Process
- FY2020: Initiate Grade Crossing Risk Assessments
- FY2020: Launch System Safety Working Groups
- FY2020: Establish Accident/Incident Investigation Process
- FY2020: ELT Letter disseminated
- FY2020: Safety Comms Established

**Safety Promotion**
- FY2020: Safety Metrics Expansion (Tiers 3/4)
- FY2020: Procure SMS Software Application
- FY2020: Capitalize on technology-based mitigations
- FY2020: Enhance simulator capabilities
- FY2020: SPARTN Expansion
- FY2020: Train Ops Data Analysis
- FY2020: Establish Safety Assurance Process
- FY2020: Launch Internal Eval Program
- FY2020: Participate in FRA’s Rail Information Sharing Environment
- FY2020: Launch Just Culture Initiative
- FY2020: Submit 243 Safety Recognition Program Initiated
- FY2020: Enhance Voluntary Reporting Programs

Amtrak SMS Roadmap as of 3/21/19

Mature SMS