



FTA State Safety Oversight Workshop: Inspection Program & Best Practices

OVERVIEW OF TRACK INSPECTION PROGRAM: IMPLEMENTATION & MANAGEMENT

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Overview: Presentation

- FDOT SSO Program Summary & Process
- Track Inspection Program –
 - Components & Process
 - Development & Implementation
 - Practical Application & Case Study
 - Modifications
- Supplemental Components – Adjacent Construction; RWP

FDOT SSO Program Highlights (i)

- Covers 3 Agencies | 4 Unique Rail Systems | 3 Modes
- Monthly Formal Contact with Agencies
 - Scheduled teleconferences & team site visits
 - Unannounced team site visits
 - Scheduled technical support visits
 - As-needed site visits in response to incidents, special needs, other
- Triennial Audits; All Other SSO Areas
- Major Program Standards Update (2018)

FDOT SSO Program Highlights (ii)

- Strong Rapport with Agency Safety Departments
- Strong Participation in Calls & Visits by O&M managers across all SSO Activity Areas
 - On-site agenda developed in conjunction w/ agencies
 - Recurring on-site activities across SME areas, including pre-revenue service, rules compliance, FE, infrastructure, etc.
- Strong Agency Compliance with Data Requests
 - Recurring monthly reports
 - Special / one-off requests & follow-up

Track Inspection Program (i)

- Overall Monitoring of Safety Practices & Inspection Compliance
- Direct Interaction with Track Maintenance & Engineering
 - Monthly & as-needed teleconferences
 - On-site reviews: regular monitoring & in-depth analysis
 - SME field reviews of regular maintenance & special projects
 - SMEs provide direct tech. assistance & industry best practices
- Track Allocation Review
 - SSO on-site meeting attendance; observe Safety participation
 - Adjacent construction & RWP monitoring

Track Inspection Program (ii)

- SME Investigation Support
 - Special on-site reviews
 - Monthly status reports review & feedback to agencies
 - Final investigation report reviews / supplemental inv. reports
- Monitoring of Maintenance Plan Implementation
 - PMI documentation reviews
 - Agency staffing updates & training; SSO staff certification
 - SOP reviews & recommendations
 - Track, switches, cross-overs, bumping posts, yard, tail track
 - Track maintenance equipment; outside contractor work

Track Inspection Program (iii)

- Track Areas & Types Covered by FDOT
 - Mainline, yard, tail tracks
 - Ballasted, embedded, at-grade, & elevated
 - Steel rails (w/ third rail, w/ OCS) & rubber tire APMs
- Capital Projects & Infrastructure Renewal Oversight
 - New track – expansions, test tracks, yard capacity upgrades
 - Rail component replacements (rail, third rail, ties, covers)
 - Compound rail segment replacement
 - Switches, crossovers, grade crossings, concrete flyovers, etc.

Track Inspection Program (iv)

- Recurring Agenda Items & Site Visit Activities
 - Track & Guideway replacement plan update
 - Recent repair activities
 - Contractor work status
 - Technical training enhancements
 - CM/PM records review
 - Monthly performance review report
 - Field reviews (repair sites, incident locations, work observation)
 - CAP updates / verifications (documents review or field visits)
 - Training accomplishments / scheduled

Track Inspection Program (v)

- Recurring Agenda Items & Site Visit Activities (continued)
 - Safety reviews: maintenance shops, rail equipment use, yard areas, materials storage areas, RWP compliance in field, adjacent construction monitoring performance field reviews
 - After-hours field reviews: SME accompanies T&G personnel for major work conducted during non-revenue hours
 - Attend track allocation meeting / employee safety briefings
 - Structural observation field reviews
 - Review hazard & incident investigation progress
 - Review Engineering investigations and special projects

Track Inspection Program (vi)

- Rail Replacement Monitoring – Monthly Progress Report
 - Task description & supporting documentation
 - Task priority ranking
 - # feet of rail; location; replacement status
 - Scheduled & actual drop dates
 - Scheduled & completed welding dates
 - Scheduled & actual rail replacement dates
 - Curve wear degree
- Rail Maintenance Performance Indicators

Program Development & Implementation

- Foundation in the FDOT Program Standard
- FDOT Supplemental Safety Audit Checklist
 - Detailed 6-category guideline with multiple items per category
 - (1) Procedures / Track Standards – 6 items
 - (2) Inspections – 4 items
 - (3) Track Structure – 31 items
 - (4) Track Special Work – 14 items
 - (5) Track Geometry – 5 items
 - (6) Track Testing & Inspection – 9 items
- FTA & APTA Guidelines; Industry Best Practices

Program Development & Implementation (ii)

- FDOT Moved to Statewide SSO Program in 2012
- Implemented Recurring Schedule of Contact w/ Agencies
 - Bi-monthly teleconferences
 - Bi-monthly site visits; occasional unannounced site visits
 - Annual schedule revisions to direct resources most effectively
 - As needed supplemental visits / requests for technical assistance
- Data Gathering & Analysis
 - Field observations
 - Hazard management program
 - CAPs tracking; internal audits; incident investigations

Program Development & Implementation (iii)

- Recent Triennial Audits (2012, 2015, 2016, 2018)
 - Findings have driven expanded areas to be monitored:
 - ✓ Adequate staffing & training
 - ✓ Adherence to maintenance & inspections, safety practices, PPE, RWP, & compliance with various operational rules
 - ✓ Proper collecting and recording of data; use of proper forms
 - ✓ Revision of SOPs & practices, as necessary
 - ✓ Prioritizing repairs; sharing information across divisions
 - ✓ Use of contractors / track geometry & ultrasound inspections
 - ✓ Structural conditions – drainage, spalling, inspections

Program Development & Implementation ^(iv)

- Formal FDOT Correspondence / Special Concerns
 - Safety certification reviews / testing / operating speed changes
 - Repair process & review of open work orders
 - Response to derailments & other track-related hazards & events
 - Establishing repair priorities; enhanced tracking and processes
 - Review of agency track safety standard for inspection & maintenance of track
 - SOP reviews, recommendations, & training
 - Unusual occurrences logs review / feedback
 - Responses to employee concerns for safety

Practical Application & Case Study

- Five Derailments in 2017 at One Agency
 - After 1st event, FDOT prioritized a CAP review involving the Track & Guideway Safety Standard for Inspection and Maintenance of Track and provided formal feedback, including recommended updates.
 - After 2nd event, FDOT issued formal memo requesting additional information & materials to ensure a complete & appropriate assessment of the investigations and agency action.
 - FDOT reviewed the preliminary information and posed a series of technical follow-up questions to assess the cause of the derailments.
 - FDOT also requested the Safety Office to conduct a hazard assessment of potential systemic, pre-existing conditions. Factors reviewed included operator performance, vehicle and track condition, adherence to procedures and training, and other possible under-addressed concerns.

Practical Application & Case Study (ii)

- FDOT reviewed event locations during the next site visit & FDOT facilitated coordination b/w SMEs and agency Track, Eng., Safety
- Following the 3rd event, FDOT initiated a special site visit and dispatched SME group to agency to conduct formal investigation.
- Following this visit, FDOT issued a comprehensive formal letter to agency expressing serious concern for safety. Letter contained 9 formal findings and required agency to develop 9 formal CAPs.
- FDOT monitored progress closely and required weekly updates.
- FDOT conducted scheduled site visits with comprehensive SME follow-up on track maintenance activities. Verified CAPs completion, as necessary

Practical Application & Case Study (iii)

- After 4th event, FDOT issued follow-up memo to provide a status update and to request additional actions.
- FDOT reviewed agency investigation reports and provided feedback to agency.
- FDOT conducted another site visit shortly after the 5th event, and the visit involved track inspection and repair reviews. FDOT SMEs continued to work closely with Track and Engineering managers to review events, identify trends, and verify completion of required activities.
- FDOT continued to utilize regular site visits to monitor progress.
- FDOT initiated triennial review process, December 2017.

Track Inspection Program: Modifications

- Consistent Monitoring & Continual Revisions Based on:
 - On-site activities & data gathering
 - Feedback from agencies / industry best practices / info sharing
 - Formal audit results
 - Event investigations, recommendations, & CAPs
- Formal FDOT Correspondence / Special Concerns
 - Enhanced SME involvement & on-site follow-up
 - Revised data requests & monthly tracking
 - Coordination w/ Track & Guideway, Engineering, Safety, Training
 - Address emerging concerns, hazards, & issues arising from events

Adjacent Construction & RWP

- Complex Construction Projects / Tower Crane Movements
 - Numerous adjacent construction projects, esp. since 2015
 - Enhanced monitoring program arose from incident response
 - Developed SOPs for monitoring, training, supervision
 - Information shared across agencies
- RWP Programs found to be Varied & Inconsistent
 - Recommended SOP & training plan revisions
 - Intensive field review monitoring / feedback to safety, ops, maint.
 - Reviewed training materials, provided feedback, attained compliance
- Ongoing FDOT SSO Program Monitoring of Both Items

Thank You!

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