

# Guardrail End Terminal In-Service Performance Evaluation (ISPE) Highlights

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## Relevant End Terminals:

- ET-Plus (all agencies)
- ET-2000 (all agencies)
- FLEAT (all agencies)
- SKT (all agencies)
- X-Lite (all but PTC, PTC opted to add later, as inventory increases)
- X-Tension (PTC opted to add later, as none installed)
- SoftStop (Missouri only)
- MSKT (Missouri only)

## Crash Types

- Fatalities/Ambulance Transport (Serious)
- Property Damage Only (PDO).

## Participating States Summary

### California

- Schedule
  - Pilot Study: 07/01/2016 – 01/25/2017.
  - Study End: 01/25/2019.
- Data Collectors
  - Fatalities/Serious – NHTSA/SCI
  - PDO – District Maintenance Foreman
- Concern/Issues
  - Memorandum of Understanding:
    - ratified on 25 January 2017
    - FHWA, Caltrans, and CHP are signatories.
  - Caltrans Districts 8 (01/01/2017) and 12 (07/01/2017) participating.
  - CHP Multi-Disciplinary Accident Investigation Teams will any qualifying crash.
- Data Collection
  - PDO/minor – 19 (5 District 8, 9 District 12)
  - Serious/fatal - 0

## Massachusetts

- Schedule
  - Pilot Study: 05/24/2016 – 08/24/2016.
  - Study End: 05/24/2018.
- Data Collectors
  - Fatalities/Serious
    - NHTSA/SCI in Districts 3 and 4
    - MA State Police Collision Reconstruction Section statewide
  - PDO – District Maintenance Foremen
- Concern/Issues
  - Legal concerns, related to liability and privacy, have been resolved.
- Fatal work zone crash has occupied state partners but also continued to support Task 5.
  - PDO/minor – 44 (District 4)
  - Serious/fatal – 2 (CARS, no data has been received to date.)

## Missouri

- Schedule
  - Pilot Study: 11/13/2015 – 02/14/2016.
  - Full Study: 11/13/2017.
- Data Collectors
  - Fatalities/Serious – NHTSA/SCI
  - PDO – State Maintenance Personnel, Motorist Assist
- Concern/Issues
  - Legal concerns, related to liability resolved.
- Study success dependent upon state point of contact, reconstructionist.
- Data Collection
  - PDO/minor – 77
  - Serious/fatal - 26

## Pennsylvania

### PennDOT

- Schedule
  - Pilot Study: 02/15/2016 – 07/25/2016.
  - Full Study: 02/15/2018.
- Data Collectors
  - Fatalities/Serious – NHTSA/SCI
  - PDO – State Maintenance Personnel, Motorist Assist
- Concern/Issues
  - Legal concerns, related to liability resolved.
  - PennDOT has no formal mechanism for timely serious crash notification. Pilot test of Notification Plan is underway.

- PennDOT POC started a hybrid fatal crash data collection, akin to PDO/minor in other states.
  - PennDOT POC concerned that district maintenance may not understand importance of study. He will escalate this issue with district maintenance management.
  - PennDOT has started to deliver PDO/minor crashes, with only approximately 50 percent usable for the study.
  - Serious/Fatal crash notification is not being followed, as developed.
  - Per PDO/minor images, at least two serious or fatal injury crashes have been yielded notification.
- PennDOT POC declined PDO/minor data collection training.
- Data Collection
  - PDO/minor – 47
  - Serious/fatal - 1

### **Pennsylvania Turnpike Commission (PTC)**

- Schedule
  - Pilot Study: 05/01/2016 – 08/01/2016.
  - Full Study: ~~05/01/2018~~. PTC asked to continue through 01/25/2019.
- Data Collectors
  - Fatalities/Serious – PTC Maintenance and NHTSA/SCI
  - PDO – State Maintenance Foremen
- Concern/Issues/Activities:
  - Successful completion of pilot of pilot.
  - Uninterrupted data collection continues.
- Legal concerns, related to liability and privacy resolved.
- Data Collection
  - PDO/minor – 8
  - Serious/fatal - 3

### **State-wide Data Collection**

- PDO/minor – 55
- Serious/fatal - 4

### **Budget Accounting**

Training Travel	\$58,563.07
Report Preparation	\$117,336.00
Expert Review	\$55,000.00
Remaining Site Visits	\$20,800.00
Investigations	\$1,566,000.00
<b>Total</b>	<b>\$1,817,699.07</b>

**ISPE of Guardrail End Terminal Data Collection, through 18 March 2017**

Crash Type	Trinity Highway Products, LLC					Road Systems, Inc.		Lindsay Corporation		Total
	ET-2000	ET-Plus Unk	ET-Plus 4"	ET-Plus 5"	Soft Stop	FLEAT	SKT	X-LITE	X-Tension	
PDO	9	11	60	15	5	6	33	31	1	171
Minor	3	3	6	0	1	0	4	0	7	24
Serious	4	0	9	0	2	0	7	4	0	26
Fatal	0	1	2	0	0	0	1	2	0	6
Total	16	15	77	15	8	6	45	37	8	227

**Note:** Serious/Fatal crashes are disaggregated as fatal until the final crash report is produced. This will account for crash-related fatalities occurring within 30-days.