



# California Public Utilities Commission Committee on Finance and Administration



Report on Strategic Directive 02  
Office of Rail Safety  
May 29, 2019  
Roger Clugston, Deputy Director



# Strategic Directive 02

## Safety

The CPUC secures health and safety with a goal of achieving zero accidents and injuries across all the entities it regulates, and within the CPUC workplace.

Within its jurisdictional authority, the CPUC will focus on an organization-wide systematic approach to safety that:

1. Continuously improves the safety culture within the entities the CPUC regulates through:
  - a. Risk Management: Continually identifying, assessing, and mitigating or eliminating the safety risks faced or posed by the entities the CPUC regulates;
  - b. Safety Quality Improvement: Continuously improving safety oversight and outcomes and learning from experience—including near misses, incidents and investigations, audit proceedings, consumer feedback and complaints;
  - c. Safety Assurance: Assuring that the entities the CPUC regulates comply with the law and have sufficient training and resources to ensure the safety of the public, their workers, and the environment;
  - d. Safety Promotion: Supporting efforts to assure that the public and CPUC regulated entities, including their workers and customers, are able to make informed choices and know how to respond to unsafe situations.
2. Ensures that CPUC employees and contractors work safely by developing an effective safety management system.





## 1) Continuously Improve the Safety Culture

### a) *Risk Management*

#### **Lessons Learned** – Office of Rail Safety (ORS):

- Proactive ORS Risk Management process works!
- Unannounced safety inspections and surveillance activities outside normal business hours is very effective
- Look beyond the regulations
- Think outside the box

#### **Metrics Applied:**

- Risk Management Status Reports (RMSRs)
- Identify risks in infrastructure and operations
- Documenting and tracking identified risks
- Analyzing documentation for trends
- Documentation of real and perceived risks

#### **Metrics by which to Measure ORS Performance:**

- Follow up and successful close out of RMSRs
- Positive results from rail and community collaboration
- Achieving mitigation or elimination of identified risks





## Trespasser Casualties

California was **first** out of the top **15 states** that had the highest trespasser casualties in **2018**:

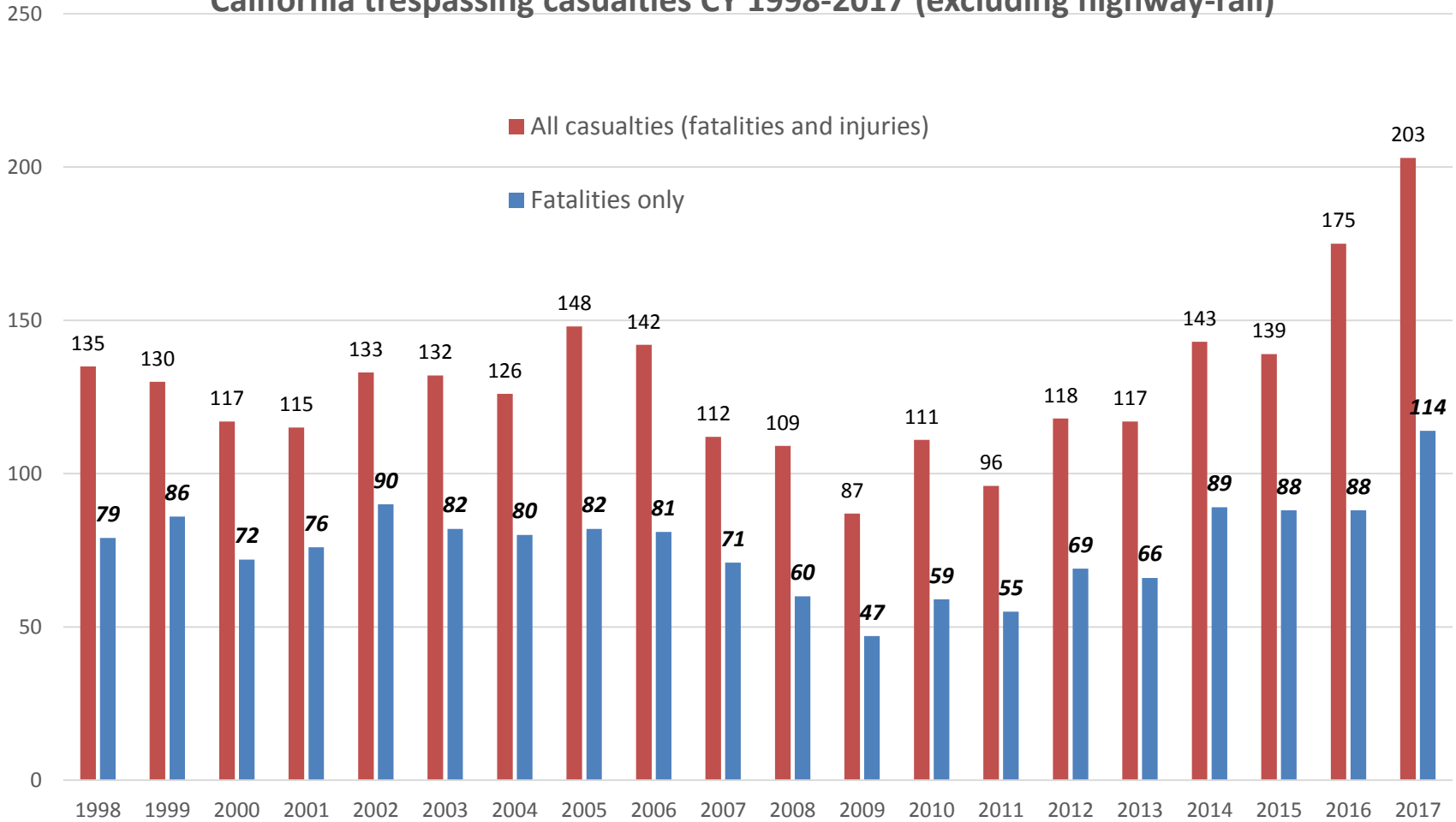
- Deaths at grade crossings: **26**
- Injuries at grade crossings: **11**
- Deaths away from crossings: **124**
- Injuries away from crossings: **86**
- Total Casualties : **247**

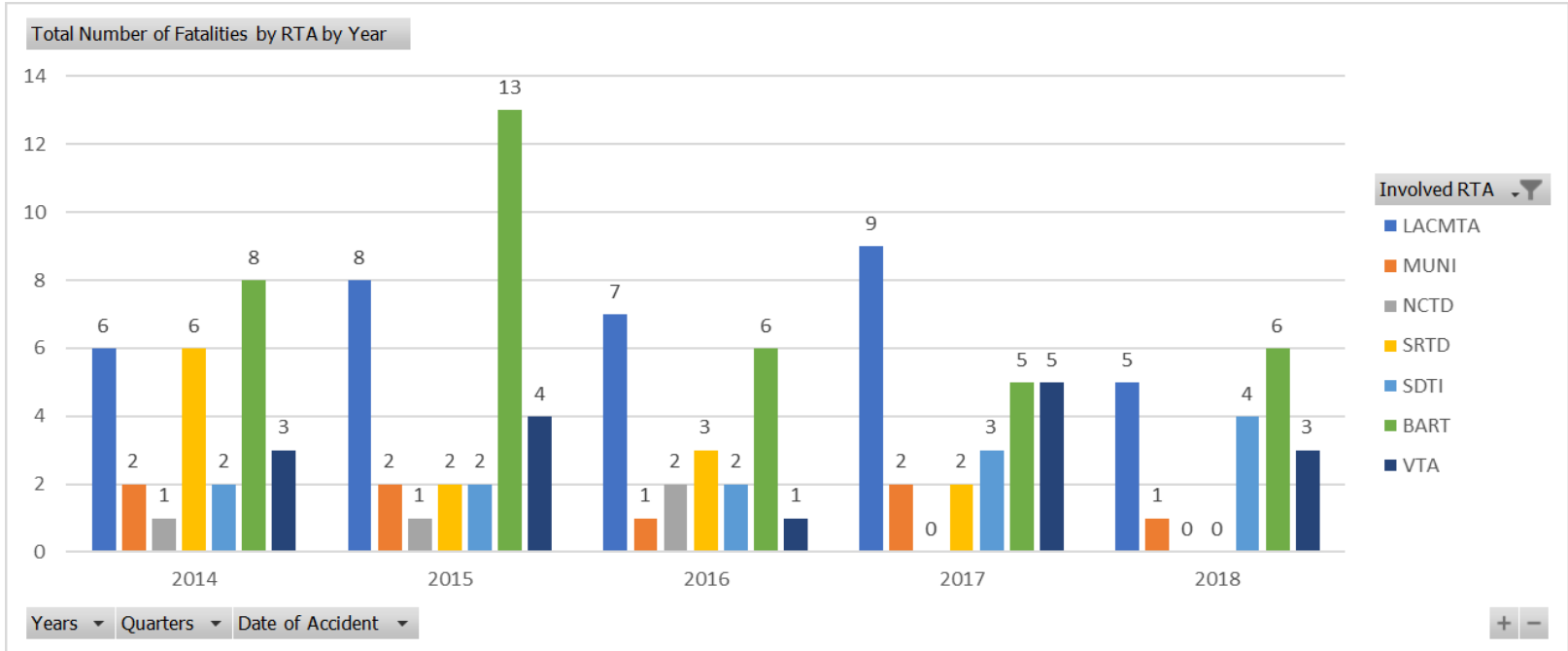
This counts for **21%** of all US trespassing casualties.





## California trespassing casualties CY 1998-2017 (excluding highway-rail)





Total Number of Fatalities by RTA by Year								
Row Labels	LACMTA	MUNI	NCTD	SRTD	SDTI	BART	VTA	Grand Total
<b>2014</b>	6	2	1	6	2	8	3	28
<b>2015</b>	8	2	1	2	2	13	4	32
<b>2016</b>	7	1	2	3	2	6	1	22
<b>2017</b>	9	2	0	2	3	5	5	26
<b>2018</b>	5	1	0	0	4	6	3	19
<b>Grand Total</b>	35	8	4	13	13	38	16	127







## 1) Continuously Improve the Safety Culture

### a) *Risk Management*

**Homeless Trespassers** - California has a disproportionate share of the nation's homeless. For the single night estimate in 2018, HUD estimated that California had the highest number of total sheltered and unsheltered homeless people of any state, about **130,000** people, constituting **24 percent** of the US homeless population.

- More importantly for the potential impact on trespassing, California had almost half (about **90,000** people, or **47 percent**) of the entire US unsheltered homeless population.
- Unsheltered homeless are more likely to live in encampments or other locations in proximity to railroad tracks

**Rail Related Suicides** - no clear patterns are apparent during the period 2011-2018. In both the U.S. and California, 2017 and 2018 had fewer deaths from suicides than was the case in previous years. Nationally, the highest number of deaths, 328, was in 2015; the lowest number, 230, was in 2018. In California, the highest number of deaths, **71**, was in **2016**; the lowest number, **44**, was in **2017**.

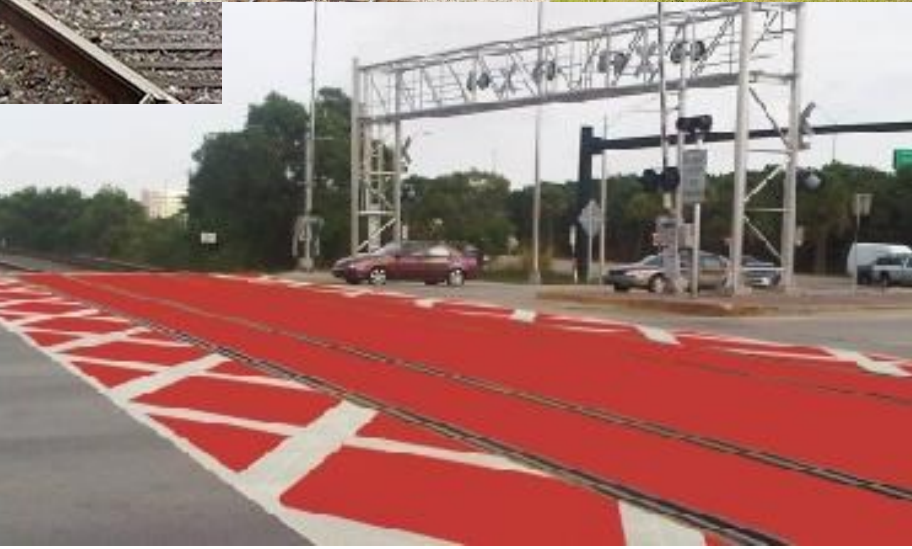
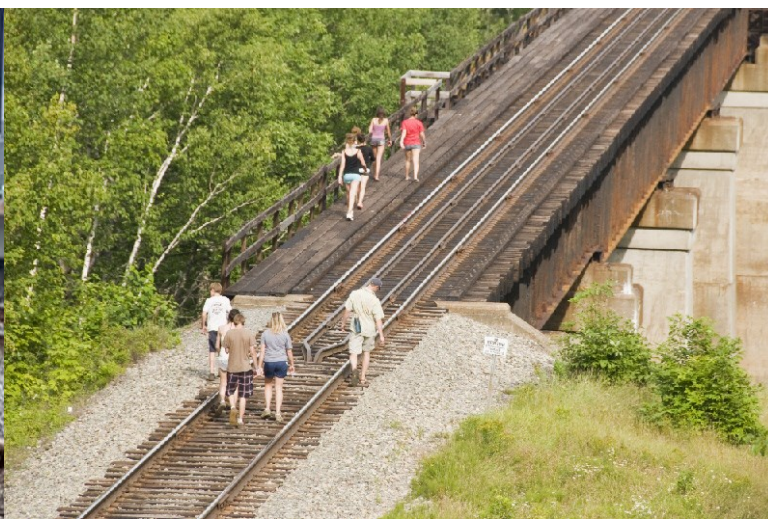
**Rail Community Outreach Project (RCOM)** (trespassing / homelessness):

- Rail safety concerns of municipalities
- Trespasser / homelessness along tracks
- Trespasser / Homeless Railroad Encroachment Study (TRES)





## Innovative, Low Cost Ideas to Reduce Trespassing Casualties







## 1) Continuously Improve the Safety Culture

### *b) Safety Quality Improvement*

#### **Lessons Learned – ORS:**

- Investigating other causal factors in a derailments and other accidents can identify contributing conditions requiring further investigation
- It is imperative to establish initiatives that look beyond the regulations and investigate perceived unsafe conditions on rail systems in order to mitigate or eliminate those risks
- Informal complaints can often uncover other risks not identified in the complaint

#### **Metrics Applied:**

- ORS staff spend more time investigating causal factors associated with derailments / accidents
- Support of non-punitive close call reporting systems through federal rulemaking participation
- Thoroughly investigates complaints from rail employees and the public
- Crude Oil Reconnaissance Team (CORT) - inspects crude oil trains and transfer facilities (and coal trains) to assesses and mitigate risks to public safety. In 2019 CORT began monitoring ethanol unit trains entering California.
- Participation in federal rulemaking
- Railroad Bridge Evaluation Program (RBEP):
  - Average of 150 thorough bridge inspection per year





## 1) Continuously Improve the Safety Culture

### *b) Safety Quality Improvement*

#### **Metrics Applied (cont)**

- Railroad Tunnel Evaluation Project (RTEP) – new project to evaluate railroad tunnel conditions and collect historic data
- Rail Head Wear Project (RHWP) – new project to analyze potentially dangerous rail wear in sharp degree curved tracks

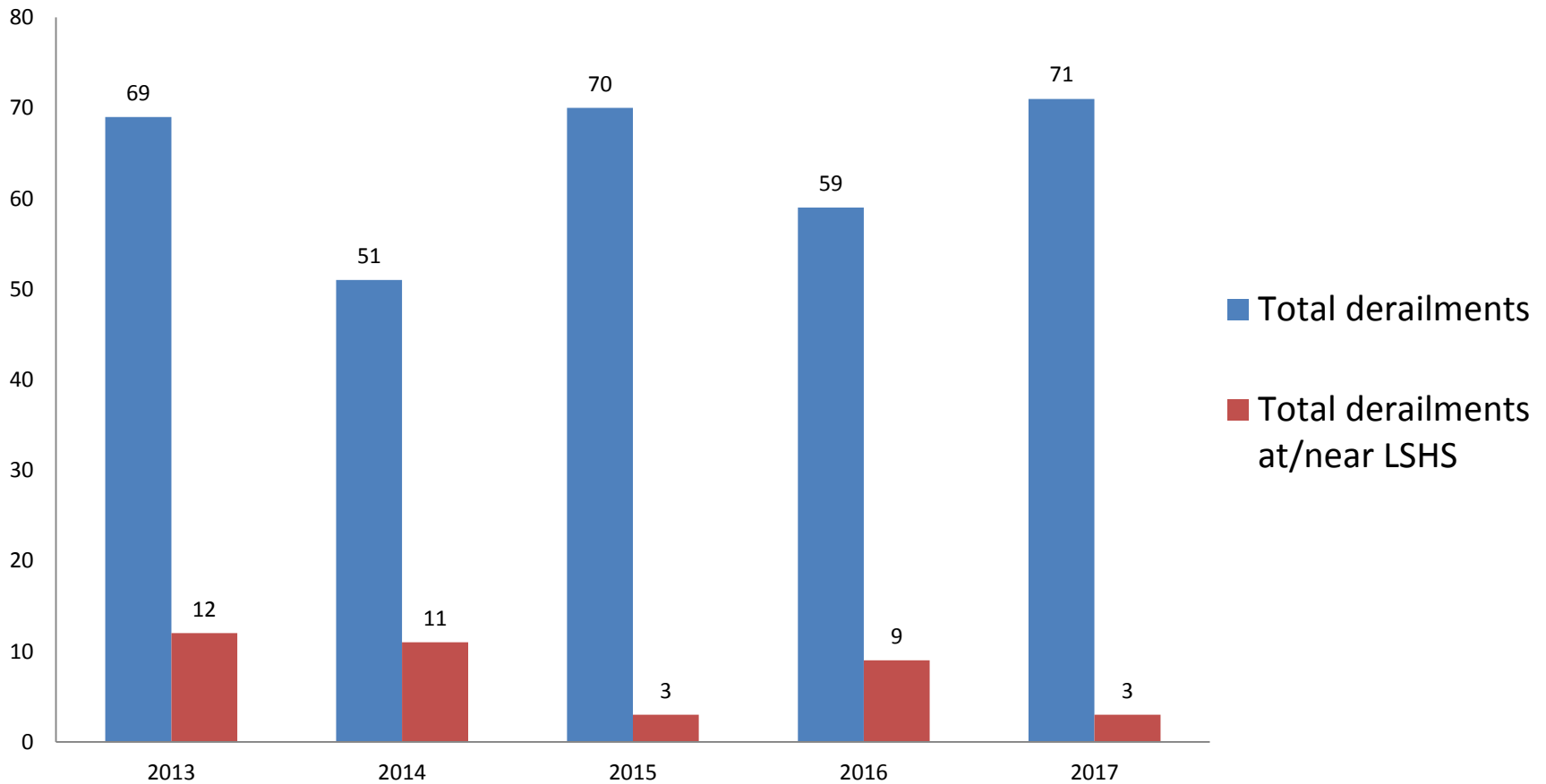
#### **Metrics by which to Measure ORS Performance**

- Improved derailment / accident investigations by looking deeper into causal factors
- Close call reporting analysis that results in crossing design changes or improvements
- Complaint closeouts that mitigate issues and potential risks
- No crude oil train issues due to continuous inspection / observation practices
- Successful interjection of ORS staff into federal rule making committees
- Bridge evaluations where issues are identified and successfully addressed
- Creating state General Orders where federal regulations fall short
- New initiatives or projects created based on findings
- Work to remedy inadequacies that may prevent organizational learning, such as employee reluctance to report safety hazards that don't come to the attention of rail management





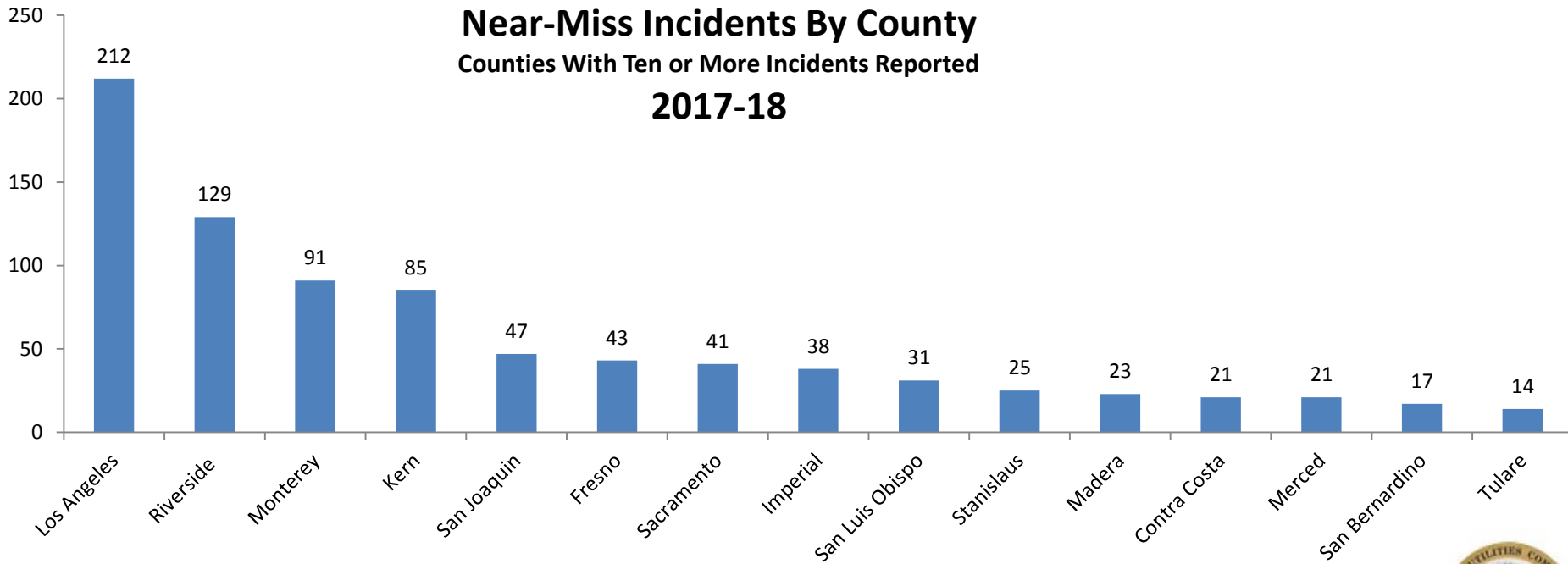
## California Railroad Train Derailments 2013 - 2017





There were 2,700 near-miss incidents in 2016/17 (including runaway train or any other uncontrolled train movement) down to 874 for 2017/18.

- Why the decline? Working with labor organizations to find answers
- Collected and analyzed 874 near-miss incidents to detect high-risk areas.
- Identified high-risk crossings and the counties with the greatest number of near-miss incidents.







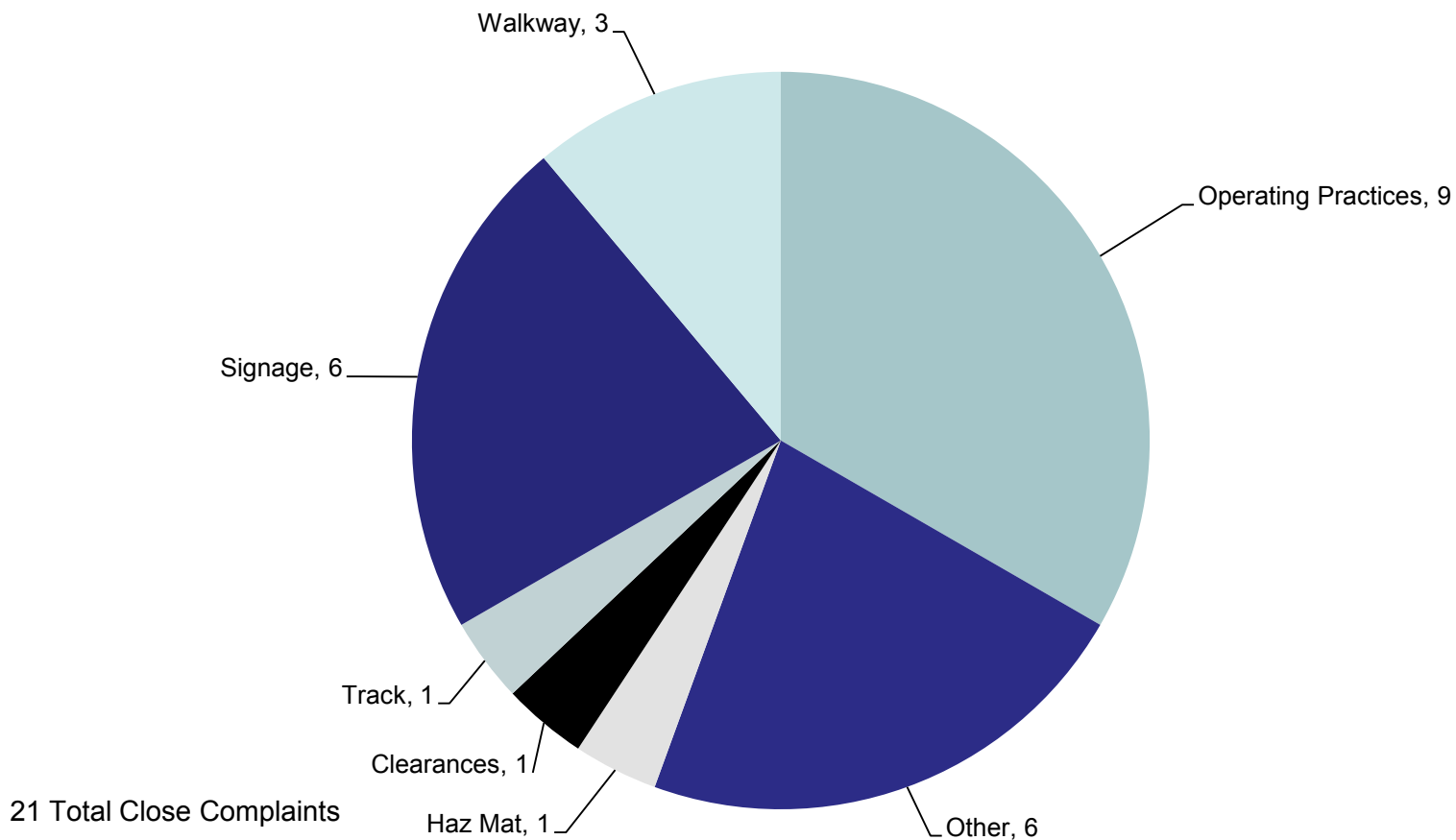
## Highway-Rail Grade Crossing Accidents/Incidents by Motorist Action

Motorist Action	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Did Not Stop	13	17	18	24	18	18	23	30	18	20	5
Other	24	32	20	18	23	19	47	51	59	67	3
Stopped on Crossing	24	17	28	41	41	31	21	19	33	38	8
Stopped-Proceeded	8	7	5	3	8	3	9	4	5	8	2
Went Around Gates	18	18	26	23	35	41	28	38	33	36	5
Went through Gate	0	0	3	7	6	6	8	9	10	12	2
Blank (Pedestrian)	30	0	10	1	0	0	0	0	0	0	0
Suicide/attempted suicide	0	0	6	10	15	9	14	17	8	9	1
<b>Total</b>	<b>117</b>	<b>91</b>	<b>116</b>	<b>127</b>	<b>146</b>	<b>127</b>	<b>150</b>	<b>168</b>	<b>166</b>	<b>190</b>	<b>26</b>
<b>Total w/o Suicide Data</b>	<b>117</b>	<b>91</b>	<b>110</b>	<b>117</b>	<b>131</b>	<b>118</b>	<b>136</b>	<b>151</b>	<b>158</b>	<b>181</b>	<b>25</b>





## Informal Complaints by Type FY 2017-2018 27 Total Closed Complaints





## 1) Continuously Improve the Safety Culture

### *c) Safety Assurance*

#### **Lessons Learned – ORS**

ORS's most important role in Safety Management Systems (SMS) is in verifying that all the planning, rules, rhetoric, and good intentions actually result in “on the ground” safety.

- SMS documents that pledge to prevent derailments don't mean a thing if the tracks they operate on aren't properly maintained, especially when there are gaps in the regulatory framework such as governing rail integrity
- Safety plan evaluations must be thorough and reviewed in the field during application

#### **Metrics applied**

- Thorough inspections that encompass weekends and nights; surveillance activities; unannounced inspections and non regulated risk identification and remediation
- ORS review/audit of rail entities' safety plans
- ORS Inspectors hired with prior experience and qualifications in a specific rail craft to be expert in identifying poor safety behavior and gaps in safety programs
- ORS inspectors and engineering staff members observe rail employees performing their duties to see if the employee demonstrates understanding of regulations and safety rules

#### **Metrics by which to Measure ORS Performance**

- Defect ratios improve; repetitive defects diminish; more RMSR closeouts; lesser need for focused inspections; safety program quality affirmed





## 1) Continuously Improve the Safety Culture

### d) *Safety Promotion*

#### **Lessons Learned – ORS**

- ORS stresses to its inspectors to promote safety beyond regulatory requirements
- ORS staff is trained to take the time to explain the safety reason behind a finding of non-compliance, and also works with rail personnel and management to assist in developing new and more effective safety behaviors
- Working with communities and rail carriers to promote innovative low cost safety ideas, such as pavement painting at grade crossings and debris walls (fencing) along railroad tracks
- Innovative ways to minimize trespasser and the homeless encroachment

#### **Metrics Applied:**

- Risk management activities resulting in RMSR's
- Mentoring rail employees and shipper employees regarding effective risk management
- Meeting with police, fire and elected officials to discuss rail safety concerns

#### **Metrics by which to Measure ORS Performance:**

- RMSR's opened and closed
- Inspector Activity Reports submitted illustrating remedies
- RCOM outreach meetings with proactive, positive resultant action plans







# Strategic Directive 02 Safety

1) Continuously improves the safety culture within the entities the CPUC regulates through: Risk Management; Safety Quality Improvement; Safety Assurance; and Safety Promotion

2) Ensures that CPUC employees and contractors work safely by developing an effective safety management system.





## 2) Ensure Employees and Contractors Work Safely

### **Lessons Learned** – Office of Rail Safety

- Field exercises that are staff only (no railroad or rail transit employee participation) can allow supervisors to observe internal safety compliance and identify potential risks to staff
- ORS promotes continual safe work practice improvements for its staff and contractors, and they must follow the ORS safety policy

### **Metrics Applied**

- Thorough, detailed job briefings are conducted before each inspection or activity, and reoccur whenever the work environment changes throughout the day. A debriefing is also held at the end of the day or activity
- Branch vehicle inspections twice a year
- Field work in teams
- ORS Safety and Cell Phone Policy

### **Metrics by which to Measure ORS Performance**

- Supervisor and manager participation in field exercises observe and correct any failure or lax in safety practices. Successfully passed recurrent federal training and in-house field training (OJT) regarding safety practices
- Understanding and compliance with ORS safety and cell phone usage policy and federal safety policies.





# Compliance with Strategic Directive-02 Safety

CPUC Staff believe the organization is in compliance with SD-02 and acknowledges that further analysis and actions must be taken to maintain compliance.





# Questions?

