ANNUAL RAILROAD SAFETY REPORT TO THE CALIFORNIA STATE LEGISLATURE

Pursuant to California Public Utilities Code Sections 916, 916.1, 916.2, and 916.3

NOVEMBER 30, 2024

FOR FISCAL YEAR 2023–2024

California Public Utilities Commission

Rail Safety Division

Executive Summary

The California Public Utilities Commission (CPUC or Commission) issues this Annual Railroad Safety Report for fiscal year (FY) 2023-2024, pursuant to Public Utilities Code (Pub. Util. Code) Sections 916, 916.1, 916.2, and 916.3.[1] Those laws require the CPUC to report to the Legislature on or before November 30 of each year on its rail safety activities, the results of its investigation of certain incidents and the cause or causes of the incidents, any action undertaken by the Commission in response to those findings, the sites on railroad lines that the Commission finds to be hazardous, and the Commission's determination of the impact on competition, if any, of the regulatory fees assessed on railroad corporations for the support of the Commission's activities.

This Annual Report addresses both mandated rail safety programs pursuant to the CPUC's state and federal responsibilities, and proactive and innovative efforts the CPUC has undertaken to ensure the safety of the public and railroad employees.

Highlights from FY 2023-2024 include:

Proactive Safety Efforts and Risk Management Activities

The CPUC has regulatory authority over rail safety within California. The CPUC's Rail Safety Division (RSD) is responsible for enforcing state and federal laws, regulations, CPUC General

---

[1] Pub. Util. Code Section 916 requires CPUC to report to the Legislature on its rail safety activities on or by November 30 of each year. In addition, Pub. Util. Code Section 916.3 requires CPUC to report on the actions it has taken to comply with Section 765.5, which requires CPUC to take all appropriate action necessary to ensure the safe operation of railroads in this state. This report chronicles the rail safety activities of CPUC's Rail Safety Division and identifies the proactive efforts CPUC's railroad safety inspectors take to promote the safe operation of railroads during the previous fiscal year.

Pub. Util. Code Section 916.1 requires CPUC to annually report the results of its investigations of runaway trains or other uncontrolled train movements that threaten public health and safety, as per Section 7661. This is included in this report in Chapter III.

Pub. Util. Code Section 916.2 requires CPUC to report to the Legislature on sites on railroad lines in California it finds to be hazardous. The report is to include a list of all derailment accident sites in the state where accidents have occurred within at least the previous five years, and a list of all railroad sites in the state that the Commission has determined to pose a local safety hazard (called Local Safety Hazard Sites [LSHSs]). Section 916.2 permits this report to be combined with the report required by Section 916. The list of derailments is located on the Commission's website at http://www.cpuc.ca.gov/rosb/, and the list of LSHSs, documented by calendar year, is presented in Chapter IV.

Pub. Util. Code Section 916.3 requires CPUC to report annually on the impact on competition, if any, of the regulatory fees assessed railroad corporations for the support of CPUC's activities. This report includes the assessment in Chapter V.

Orders (GO), and directives relating to transportation by rail.[2] Beyond situations specifically identified in these authorities, RSD inspectors continuously identify other potential safety hazards, and conduct risk management and reduction work:

- RSD inspectors created nine new Risk Management Status Reports (RMSRs) to identify risks that may not be addressed by existing rules and regulations. For example, an RMSR addressed multiple hazardous conditions in a Union Pacific yard in Tracy, including lack of security fencing, vandalism and theft, threats to railroad employees, and debris in walkways creating clearance issues and tripping hazards. During FY 2023-2024, one previous fiscal year RMSR was closed out and nine new RMSRs were created.
- RSD's Crude Oil Reconnaissance Team (CORT) obtained information from California refineries about large-volume crude oil shipments projected to enter the state and inspected crude oil transfer facilities and related infrastructure to verify compliance with state and federal railroad regulations, as well as CPUC railroad-related GOs. The GOs most frequently cited by RSD concern obstructions to clearances around tracks and railroad equipment, and tripping hazards on walkways.
- RSD inspectors performed 143 total bridge observations to determine bridge safety conditions.
- Through its Rail Head Wear Project (RHWP)[3], RSD is monitoring rail head wear by utilizing high-grade manual rail head wear gauges and thorough visual inspections in critical areas throughout California.
- RSD staff continued to inspect Positive Train Control (PTC) regarding effective operations.
- RSD staff monitored implementation of High-Speed Rail (HSR) in California.
- RSD continued its Heavy Grade Audit Project (HGAP) to identify potential and imminent risks caused by changes in train make-up rules (the placement of individual railcars that make up a train) to the safe operation of freight trains in mountainous areas in California, where trains encounter steep grades and sharp curves.
- RSD investigated 10 complaints received from a variety of sources, including railroad employees, railroad unions, and the public.

[2] The unit within RSD primarily responsible for this oversight is the Rail Operations and Safety Branch (ROSB).

[3] Railhead refers to the top of the rail which come in contact with the wheels of trains as they travel on the rail. The railhead wears out at different locations depending on the weight of the trains, the grade, and the curvature of the turns.

Mandated Rail Safety Inspections and Investigations

During FY 2023-2024 RSD inspectors:

- Performed 4,695 inspections and follow-up inspections to monitor the railroads' compliance with federal and state laws and CPUC GOs.
- Cited 16,682 federal regulation defects.
- Recommended civil penalties to the Department of Transportation's Federal Railroad Administration (FRA) for 782 violations of federal regulations.
- Completed 401 CPUC GO reports that identified 1,226 state regulation defects. In brief, railroads are notified of the defects, a follow up inspection is made to see whether non-compliances have been corrected, and if not, depending on the severity of the defects, a citation with an accompanying fine may be levied.

Investigations of Runaway Trains

In FY 2023-2024, RSD investigated four uncontrolled train movements.

Local Safety Hazard Sites

This Report includes a list of the accidents that have occurred at or near a local safety hazard site (LSHS) within the previous five years. Local Safety Hazard Sites are sinuously curved tracks or mountainous areas where degree of track curvature is high. Pub. Util. Code Section 916.2 requires the CPUC to include a list of all railroad derailment accident sites in the state on which accidents have occurred within at least the previous five years, describe the nature and probable causes of the accidents, and indicate whether the accidents occurred at or near sites that the CPUC has determined to be hazardous.[4] Within the previous five calendar years, California experienced 395 derailments. Of that total, 38 derailments, or 9.62 percent, occurred at or near local safety hazard sites.

[4] CPUC has been combining the LSHS accident report with its Annual Railroad Safety Report since 2014.

I. Proactive Safety Efforts and Risk Management Activities

The CPUC strives to achieve a goal of zero accidents and injuries across all the utilities and businesses it regulates, and within all CPUC facilities. To achieve that goal, RSD embraces a comprehensive safety management approach that integrates public policy, risk management, and compliance with the federal and state laws and CPUC General Orders.

Safety culture improvement and proactive risk management are integral to RSD's mission of ensuring safe operation and maintenance practices of railroads in California. In addition to investigating specific violations of state and federal regulations, RSD inspectors and support and analytical staff carry out comprehensive and proactive safety oversight. A high priority of risk management involves looking beyond specific texts in the regulations to identify additional, potential risks. As explained below in sections A through K, in addition to its mandated safety efforts, RSD uses proactive tools, cooperative engagement with railroads, inspection programs for high-risk areas, and monitoring of emerging rail technologies and projects.

A. Risk Management Status Reports

During field work, RSD inspectors may identify items of concern that are either: (1) out of their area(s) of expertise; (2) outside of formal/official reporting and action protocols; or (3) are still safety risks despite prior formal or informal regulatory action. When this happens, the inspectors complete a Risk Management Status Report (RMSR).

Once an RMSR is documented, the inspector and supervisor meet with the responsible railroad, shipper, or associated entity's responsible representative, convey the safety risk linked with the issue, and define a time-period in which the risk should be addressed. The RSD inspector performs a follow-up inspection to determine whether the risk was eliminated or sufficiently mitigated. If the railroad fails to take the steps required to resolve the issue, the RSD Program Manager will pursue the matter with the responsible railroad officials, and if necessary, bring the issue up to the Director or to the CPUC for further enforcement action.

An example of an RMSR is presented in Appendix B.

During FY 2023-2024:

- 1 previous fiscal year RMSR was closed out (i.e., the recommendations were implemented and/or an alternative conclusion was reached with the railroad).
- 9 new RMSRs were created. The issue areas were as follows:
    - 4 – Hazardous Conditions
    - 2 – Operating Practice
    - 1 – Railroad Employee Training
    - 1 – Vegetation

- 1 - Vandalism

Six of these new reports were closed. RSD seeks to resolve the remaining three reports during the next fiscal year.

B. Crude Oil Reconnaissance Team

The Crude Oil Reconnaissance Team (CORT) was established in 2013 and is comprised of RSD inspectors from all five railroad disciplines (track, signal, hazardous materials, equipment, and operations). Team members obtain information from California refineries, such as planned crude oil unit train shipment arrival dates and routes. A "unit train" is a train that is composed of cars carrying a single type of cargo, and a crude oil unit train carries only crude oil. The trains tracked by CORT may have 100 individual tank cars. CORT also verifies the origin of crude oil shipments and whether the shipments contain Bakken crude or not, which is a more volatile commodity than most other types of crude oil. The team monitors crude oil unit trains to inform RSD management if Bakken crude enters the state and thus determine if any special actions must be taken.

During FY 2023-2024, a total of 10 crude oil unit trains entered California, all going to the Kern Oil Refinery in Bakersfield, with each unit train carrying 100 tank cars. All the trains originated from Carlsbad, New Mexico.

Most of the crude oil entering the state arrives in unit trains. However, crude oil also enters in individual tank cars that are part of trains carrying mixed cargos, known as "manifest trains." Crude oil cars traveling in manifest trains are difficult for CORT to track until they reach a rail yard because refineries do not have information about which manifest trains are carrying crude oil cars and, therefore, cannot inform RSD. Once crude oil tank cars reach rail yards, RSD can obtain information about them from railroad yard management personnel, who know the contents of the various tank cars within their facilities as well as their final destinations once they leave the yards.

CORT personnel also inspect crude oil transfer facilities and related infrastructure to verify compliance with state and federal railroad regulations, as well as CPUC railroad related GOs. As part of these efforts, the team obtains data from each facility pertaining to its actual and expected future monthly train count, which are used to prepare a monthly CORT report on crude oil shipments coming into the state.

Ethanol unit trains entering the state. Starting in February 2019, CORT began tracking the number of unit trains carrying ethanol entering the state in addition to the shipments of crude oil. Ethanol is an extremely volatile commodity that moves in large volumes throughout the state. There are three facilities that handle unit trains of ethanol in California: Kinder Morgan, Eco-Energy, and Pelican Renewables. As with crude oil, individual ethanol cars entering the state cannot be tracked until they reach rail yards and are assembled into trains with known final destinations. Ethanol shipments are included in the monthly CORT report.

Kinder Morgan, located in Wilmington, receives ethanol by rail from BNSF Railway (BNSF) via the Lomita Rail Terminal, which then moves it via pipeline to various refineries in Los Angeles County. The Lomita Rail Terminal received 176 unit-trains of ethanol in FY 2023-2024, ranging in size from 64 to 96 cars. When there is no room for these cars at the Kinder Morgan facility, they are stored in a siding outside the Kinder Morgan facility or a rail yard in Barstow.

Eco-Energy, located in Stockton, received its first ethanol unit train in June 2022. During FY 2023-2024, the facility received 52 ethanol unit trains, each containing approximately 105 cars. The trains are delivered by a short line railroad, the Central California Traction Company (CCT). Upon arrival, the product is moved via pipeline to several refineries in the Port of Stockton.

Pelican Renewables, located in Stockton, received its first ethanol unit train in May 2022. During FY 2023-2024, the facility received 7 ethanol unit trains, each containing approximately 108 cars. The trains are also delivered by CCT. Upon arrival, the product is placed in storage tanks until being shipped by truck to various refineries in the Stockton area.

Storage of tank cars containing Liquefied Petroleum Gas. In April 2019, the CORT team began tracking the number of individual tank cars containing Liquefied Petroleum Gas (LPG) in storage at various locations throughout California. Data produced by these new activities can be helpful to other agencies if cars carrying LPG release their contents due to derailments or other types of incidents.

Stored LPG tank cars at the Arizona and California Railroad yard

To discover the number of stored cars carrying LPG, CORT contacts railroad managers, vendors, and train crews to locate yards storing both loaded and empty cars throughout California. There are currently four storage locations in the state: Arizona and California Railroad, Santa Maria Valley, Sierra Northern Railway, and Oakland Global Rail Enterprise. Storage at each of these locations fluctuates between 50 and 300 cars per month. New additional storage locations can occur at any time.

RSD conducts compliance inspections of these and any additional locations on a regular basis and tabulates current numbers in the monthly CORT report. When a defect is found, such as missing

placards, the railroad and the vendor are both notified. Depending on the lease agreement, either the railroad or the vendor is responsible for correcting the defect.

C. Railroad Bridge Evaluation Program

There are approximately 80,000 railroad bridges in the United States. Railroad bridges and approaches that suffer structural damage or other failure due to corrosion of steel components, silt build-up around supports, excessive loads, flooding, and other conditions create dangerous conditions for the public, railroad employees, and the environment.

Federal bridge safety standards are set out in 49 Code of Federal Regulations (CFR) Part 237. Among other requirements, railroad track owners must create a bridge management program, perform annual bridge inspections, and calculate load capacities. FRA personnel evaluate the railroads' compliance with these standards.

RSD's involvement in railroad bridge safety is important for regulatory oversight in California because FRA has relatively few employees specializing in railroad bridge safety. At the present time, only six FRA personnel evaluate the bridge management programs of the thousands of US railroad bridges under FRA jurisdiction.

RSD and FRA have agreed to work in concert to ensure that railroad track owners in California complete their bridge management programs and conduct joint railroad bridge observations. In the Railroad Bridge Evaluation Program (RBEP), two RSD inspectors focus on issues related to railroad bridges. The inspectors perform bridge observations, prioritizing these observations based on such risk factors as the proximity of railroad bridges to the identified Local Safety Hazard Sites across the state; to flammable vegetation; and/or to saltwater bodies, where salinity can cause increased rates of corrosion. These observations incorporate a photographic essay of each bridge span and related components, which creates a visual record of a specific point in time of a bridge's condition for future reference. RSD can cite bridge owners for violations of GOs or applicable Federal regulations. Where conditions do not violate regulations but pose other safety hazards, inspectors may issue an RMSR.

During FY 2023-2024, pursuant to the RBEP, RSD inspectors performed the following:

- 143 total bridge observations.
- 88 FRA track inspection reports (including track condition violations).
- 49 State GO Inspections (including walkway and obstruction violations).
- 4 RMSRs (notifications to railroads about bridge safety concerns not covered by regulations).

As an example of RBEP activities, on April 11, 2024, an RSD bridge inspector performed an observation of a UPRR bridge near Chowchilla. The inspector observed excessive high vegetation growing next to the bridge. In the event of a heavy rain during winter months, and/or during warmer weather run-off, swelling waterways can carry trash, uprooted trees, mud, rocks and other

debris downstream. Bridges that have such high vegetation growth next to them in these instances contribute to creating an obstruction, not allowing water and debris to pass freely under the bridge. This causes build up next to a bridge, creating water rise and pressure against a bridge that can erode the areas around bridge pilings and abutments. This can degrade the structural integrity of a bridge and contribute to a train derailment.

RSD staff immediately notified UPRR management of the dangerous condition. UPRR committed to remediating the condition as soon as possible. RSD conducted a follow-up inspection and verified that the high growth vegetation had been removed.

Vegetation condition before

Vegetation condition after

D. Railroad Tunnel Evaluation Project

Railroad tunnel structural integrity can be weakened by such events as earthquakes, fires, flooding, and soil erosion, and by derailments and other railroad accidents. As well as safety risks to passengers and railroad employees, damage to tracks and other tunnel-related problems can create major delays to freight and passenger train traffic. RSD is helping to address railroad tunnel issues by assigning staff to evaluate tunnel conditions in the Railroad Tunnel Evaluation Project (RTEP).

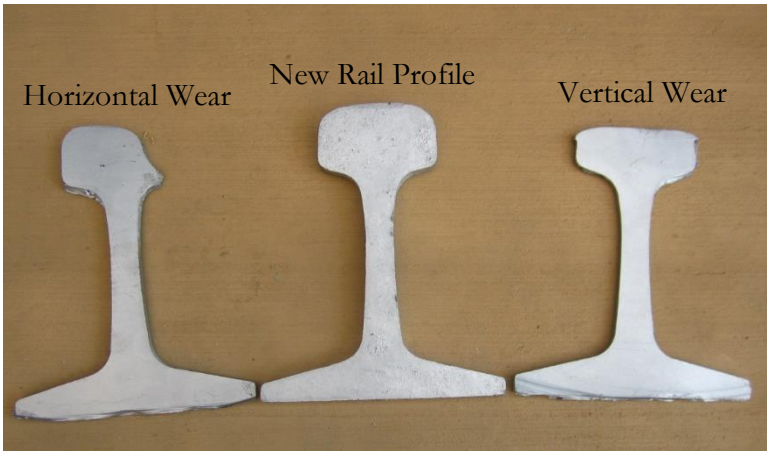
The RTEP inspection team is made up of RSD track inspectors. Team members inspect the tunnels and track structures within tunnels by walking the track. The inspectors document tunnel and track conditions by taking photographs and videos and completing tunnel survey forms. Information

collected on the survey forms includes tunnel history; height and width measurements; rail wear measurements; conditions of tunnel walls, ceilings, and floors; adequacy of drainage; and ballast conditions. Future tunnel surveys can use this information to assess whether tunnel conditions have worsened and if so, to what extent. A representative of the railroad responsible for the tunnel is present during the inspections, and they are made aware of concerns brought up by the RSD inspection team. RSD staff have completed railroad tunnel inventories for all railroads operating in California. There are approximately 120 tunnels that are in use and approximately 30 that are not in service. Sixty-three tunnels have been fully evaluated by RSD.

Tunnel inspection efforts in FY 2023-2024 were hampered by the repair work that was still being performed on track and tunnels previously damaged by the heavy rains and fires of previous years. Supervising the repair work prevented the responsible railroad representatives from spending the necessary time with RSD inspectors to perform the inspections. A railroad representative is necessary to be present to afford RSD staff required track occupancy permission from railroad dispatchers for safety reasons. As a result, only one tunnel evaluation was performed, on UPRR Tunnel 21, near the city of Auburn, on June 27, 2024. A UPRR representative accompanied the inspector. Minor drainage problems not requiring immediate correction were observed, which the UPRR representative said are being monitored and will be addressed as required. It is expected that regular tunnel evaluations will resume in FY 2024-2025.

E. Rail Head Wear Project

Rail head wear is caused by the abrasive interface of wheels from loaded railroad cars passing over rails. Rail head wear can cause problems affecting uniform track gage and train balance while the train is traversing a curve. Track gage and train balance must be maintained within specified tolerances for safe train passage. Therefore, excessive rail head wear can be a causal factor for train derailments, especially on sharp curved track in mountainous areas.



FRA and some railroads collect rail head wear measurements under some circumstances. However, there are no regulations mandating when rail should be replaced due to rail head wear. It is imperative that railroads establish good rail wear monitoring, maintenance, and replacement plans with remedial contingencies in the event of shortened rail head life expectancy, especially in multi-curved mountainous areas.

During FY 2023-2024, RSD inspectors on the Rail Head Wear Project (RHWP) team measured and documented rail head wear at 21 different locations of concern identified by our track inspection staff. The RHWP team measures rail head wear utilizing high-grade manual rail head wear gauges during tunnel surveys, derailment investigations, while conducting routine inspections at Local Safety Hazard Sites, and during other routine and special activities in sinuously curved track locations. Track inspectors also compare measurements with data collected by the FRA and the railroads themselves to look for uniformity or conflicting data. The track inspectors discuss their rail wear measurement findings with their branch supervisors and railroad company officers to assess rail monitoring, maintenance, and replacement plans.

Excessive rail head wear conditions may call into question a railroad's overall rail maintenance program plan. The RHWP intent is to focus on constructive discussions with high-level railroad officials regarding potential risks that may be overlooked in an existing rail monitoring, maintenance, or replacement plan. These ongoing discussions have proven beneficial for identifying high risk areas, such as Tehachapi Pass, where excessive rail head wear appeared at a faster rate than the railroad projected. This has opened a dialogue between RSD and the railroad for proactive adjustments to their rail replacement plans before a derailment occurs.

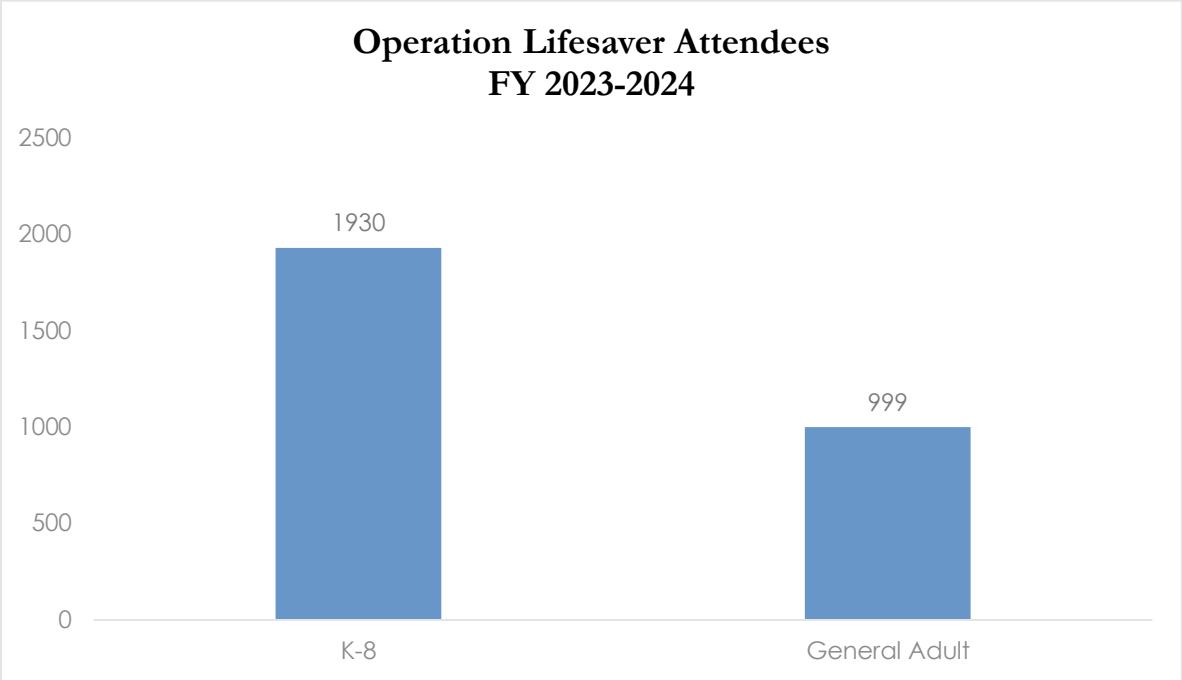
In the absence of FRA regulations concerning rail head wear, and as part of the CPUC's commitment to risk management and continually looking beyond the regulations, RSD plans to continue collecting rail head wear information. This information will allow RSD to advocate for more effective rail head wear monitoring, maintenance, and replacement plans by railroads.

F. Operation Lifesaver Presentations

Operation Lifesaver, Inc (OLI), a nonprofit organization, administers a public safety awareness campaign and is funded primarily by grants from the FRA. Operation Lifesaver's mission is to end collisions, deaths, and injuries at highway-rail grade crossings and on rail property through a nationwide network of volunteers who work to educate people about rail safety.

RSD inspectors and other staff have volunteered for Operation Lifesaver activities throughout the state, providing presentations to schools, community organizations, drivers' education classes, bus driving workshops and trucking organizations, as well as educating the public at weekend events such as festivals and safety fairs about the dangers of being on or close to tracks, the meaning of warning signs, and other safety-related topics.

The number of events that staff were invited to participate in was almost identical to the previous fiscal year's total, although the number of attendees declined: (93 presentations/2,929 attendees) compared with FY 2022-2023 (92 presentations/6,278 attendees).



During FY 2023-2024, RSD staff:

- Made 93 Operation Lifesaver presentations
- Attended 16 community-wide events
- Reached 2,929 people

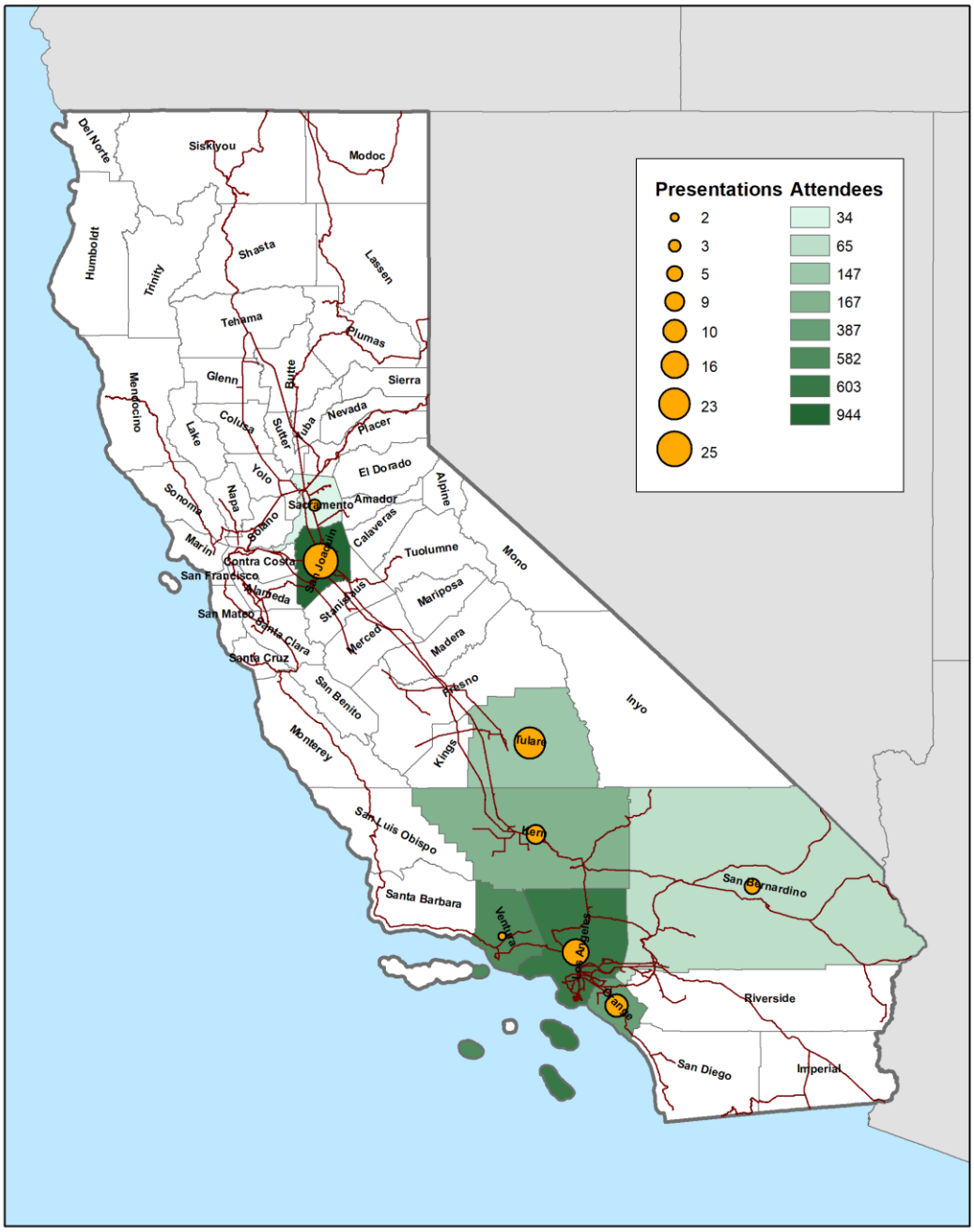
Operation Lifesaver events included:

- AgVenture – San Joaquin County School District
- AgVenture – Stockton School District
- AgVenture – Tracy School District
- Imagine U - Children's Museum (5 Events)
- Lankershim School Career/Safety Week
- Los Angeles Angels Community Event

- Los Angeles Union Station Train Festival
- Online with the Los Angeles County District Attorney's Office
- Port Hueneme Banana Festival
- Story Time – Sacramento Railroad Museum
- Zenith Ag Safety Summit – Kern County
- Zenith Ag Safety Summit – Ventura County

Operation Lifesaver Presentations

by county (FY 2023-2024)



G. Positive Train Control

Positive Train Control (PTC) technology uses a combination of wired or wireless digital communications, global positioning, and fixed wayside signal systems to send and receive a continuous stream of data about the location, direction, and speed of trains. PTC is designed to prevent train-to-train collisions involving different track blocks, over-speed derailments, incursions into established work zones, and movement through a track switch left in the wrong position. If a train does not slow for an upcoming speed restriction, stop indication, a switch improperly aligned, or a work zone boundary, which has not been given the approval to pass by the Employee-In-Charge, PTC will alert the engineer that action needs to be taken. If an appropriate action is not taken by the engineer, PTC will apply the train's brakes before the speed restriction, stop indication, switch in wrong position location, or work zone is violated.[5]

The Rail Safety Improvement Act of 2008 (Pub. L. No. 110-432) required each Class I railroad and each entity providing regularly scheduled, intercity or commuter rail passenger service to implement an FRA-certified PTC system by December 31, 2015, on:

- Its main line over which 5 million or more gross tons of annual traffic and poison or toxic-by-inhalation hazardous materials are transported, and
- Its main line over which intercity or commuter rail service is regularly provided.

In the Positive Train Control Enforcement and Implementation Act of 2015 (Pub. L. No. 114-73), Congress extended this deadline to December 31, 2018, and included provisions for railroads to request an additional 24-month extension to December 31, 2020, if certain criteria were met.

Each railroad that owns track (host railroad) is required to implement PTC along all tracks covered under the above laws. Two freight railroads in California, Union Pacific (UPRR or UP) and BNSF Railway (BNSF), are required to implement a PTC system under federal regulations and did so prior to the end of 2020. In general, short line railroads do not fall under the federal requirements to install PTC on their own railroad because they do not carry passengers or meet other criteria covered under the applicable regulations. However, the host railroad can require a short line to have PTC interoperability when the short line is operating on the host tracks.

There are several different PTC systems available that meet federal requirements, and different PTC systems are or will be in use by different railroads. Two different types of PTC systems are in use within California, which poses challenges when different systems are used by the host railroad and other railroads using that track (tenant railroads). To traverse host railroads, each tenant railroad must have interoperable PTC onboard equipment so that the different PTC systems can communicate with each other.

---

[5] The 2014 and 2015 Annual Reports to the Legislature provide more detail on PTC technology.

Staff performed the following activities during FY 2023-2024:

- 51 PTC operational train ride inspections.
- 51 encounters with railroad personnel to monitor performance.
- Ongoing correspondence with the railroads to determine status and implementation issues.
- Monthly meetings reviewing PTC activities.

RSD staff will continue to monitor the progress of PTC in California and make recommendations to ensure that railroads operate and maintain safe and effective systems.

California PTC Status: Passenger Railroads[6]

	PASSENGER RAILROAD	STAGE OF PTC IMPLEMENTATION
1	SCAX	Conditional Certification.[7] Interoperability with tenants BNSF, UP, SDNX, and ATK on all host territory.
2	SDNX	Conditional Certification. Interoperability with tenants SCAX, ATK, and BNSF.
3	SMART	Conditional Certification.
4	ATK	ATK is a tenant railroad in California. Interoperability with host railroads SCAX, SDNX, BNSF, and UP.
5	PCMZ	Conditional Certification. Interoperability with tenants ATK, UP, and ACE.
6	ACE	ACE is a tenant railroad in California. Interoperable with host railroad UP and Caltrain.

[6] See Appendix I - List of Abbreviations for explanations of railroad abbreviations in the following two tables.

[7] FRA Conditional Certification of the railroad's Safety Plan and PTC system granted. The Safety Plan demonstrates to the FRA that the respective railroad's PTC system meets all federal requirements and works as stated.

California PTC Status: Freight Railroads

	FREIGHT RAILROAD	STAGE OF PTC IMPLEMENTATION
1	BNSF	All required subdivisions in California have PTC installed and in revenue service. BNSF is PTC interoperable with SCAX, SDNX, ATK, and UP.
2	UP	All required subdivisions in California have PTC in revenue service. UPRR is interoperable with BNSF, SCAX, ATK, ACE, and PMCZ.

H. California High-Speed Rail

California High-Speed Rail System

The California High-Speed Rail Authority (CHSRA), located within the California State Transportation Agency, is responsible for planning, designing, building and operation of the California High-Speed Rail (HSR) system. Phase 1 of the system is the 520-mile San Francisco/Merced to Los Angeles/Anaheim section approved by California voters in Proposition 1A in 2008. Future extensions will proceed from Merced to Sacramento and from Los Angeles to San Diego.

The system is planned to encompass over 800 miles of rail, with up to 24 stations. Construction has been taking place on a 119-mile portion of the 171-mile Central Valley Segment (Merced to Bakersfield), between the city of Madera and to the south, Poplar Avenue, about twenty miles north of Bakersfield.

As described in the CHSRA's 2023 Project Update Report, the Authority's goals are to:

1. By the end of 2025, complete all environmental documents for the entire 500-mile system connecting San Francisco and Anaheim.

2. By 2028, complete and begin train testing on the first 119-mile, double-tracked and electrified high-speed rail test track between Madera and Poplar Avenue.

3. Between 2030 and 2033, begin high-speed passenger service between Merced, Fresno and Bakersfield – this is their highest priority.

4. By 2030, advance Northern and Southern California sections to 30% design so that construction can continue to progress when funding is provided. [8]

[8] CHSRA, 2023 Project Update Report, California High-Speed Rail 2023 Project Update Report, March 1, 2023, p. vii. On July 11, 2024, a CHRSA representative confirmed to RSD staff that these goals remained the same.

Brightline West High-Speed Rail System

Brightline West plans to construct a privately owned and operated electrified high-speed passenger rail system that will connect Southern California and Las Vegas, Nevada. The 218-mile line will be constructed primarily within the Interstate 15 right-of-way on an alignment that will largely run in the median of the freeway under agreements with Caltrans and the Nevada Department of Transportation. A Brightline West station to be constructed adjacent to the existing Rancho Cucamonga Metrolink station will provide connectivity for passengers to travel throughout the Southern California passenger rail network, including access to Los Angeles Union Station. Additional Brightline West stations will be built in Hesperia (for certain hours of local rail service), Apple Valley, and Las Vegas.

Brightline West held a groundbreaking ceremony in Las Vegas on April 22, 2024. Construction is planned to start later in 2024, with project completion within four years.

RSD's Role

With its high speeds and hundreds of passengers on each train, HSR poses large potential accident risks. Even at low speeds, accidents can have significant consequences. RSD, with its regulatory authority over high-speed rail as a passenger rail system, has important responsibilities in helping to ensure the safety of HSR.

RSD staff inspect joint corridor locations where HSR construction sites and conventional freight train and passenger train properties interface. These inspections focus on HSR construction activities that may endanger railroad workers on adjacent properties and/or potentially interfere with conventional railroad operations. The work associated with HSR can create unsafe conditions in close quarters between HSR and railroad properties. For example, locations where HSR contractors are moving building materials and equipment that could come into proximity of train operations creates a safety risk for HSR and railroad workers.

RSD reviews grade crossing applications from CHSRA and Brightline West to ensure that the applications incorporate all applicable state and federal requirements.[9] The applications mostly consist of overpass and underpass structures (which are referred to as grade separations) and related construction plans that eliminate the need for at-grade crossings. While grade separated crossings are more expensive than the at-grade crossings that are common on conventional railroad systems, grade separation eliminates train collisions with vehicles and pedestrians at crossing locations.

In August 2022, the Commission approved Resolution SX-148, which adopted a process for using staff resolutions for Commission approval of grade-separated railroad crossings to be constructed as part of the Brightline West project.

In FY 2023-2024, RSD staff performed the following:

[9] Crossing applications are reviewed and approved by RSD's Rail Crossings and Engineering Branch.

- Staff reviewed and processed three submittals under the Resolution SX-148 process. The Commission approved SX-156, which authorizes 47 new grade-separated crossings on the Brightline West project.
- Staff reviewed one GO 88-B application from the CHSRA for an alteration of an existing crossing. These applications require only staff level approval.
- Staff participated in conversations with HSR experts, including Frederic Henon of the International Union of Railways and Louis Thompson of the CHSRA Peer Review Committee.

During FY 23/24 RSD staff did not receive any formal applications from CHSRA for the construction of a new crossing.

I. Heavy Grade Audit Project

RSD initiated the Heavy Grade Audit Project (HGAP) at the start of 2020 as part of its efforts to proactively manage public safety risks regarding train make-up rule changes. Train make-up refers to the placement of individual railcars that make up a train. When assembling a train, railroads consider a variety of factors — such as weather conditions, terrain, each car's weight, length, freight, and whether it is loaded or empty — when determining its position in the train. Additional locomotives also can be placed at other locations within trains to increase power and braking.

The purpose of HGAP is to identify potential and imminent risks, caused by changes in train make-up rules by railroads, to the safe operation of freight trains in mountainous areas in California, where trains encounter steep grades and sharp curves ("heavy grades").

UPRR System Special Instructions Item 8, "Heavy and Mountain Grade Operations," defines territories with a grade of 1 percent or more as "Heavy Grade" territories that require special train handling due to steep grade and sharp curves. The potential for a derailment or runaway train greatly increases in these areas.

Train make-up affects the weight distribution of trains and their ability to safely traverse railroad track, depending on such factors as track grade and curvature, and how crews handle train speed and braking. Improperly assembled trains are more susceptible to derailment. For example, if cars are arranged such that empty rail cars alternate with loaded, heavy cars, the empty cars can become compressed between the loaded cars and derail when the engineer applies the train's brakes. Similarly, if the engineer accelerates the train too abruptly it may pull the rail cars apart and/or derail them. Mountainous areas with steep grades and sharp curves pose the greatest potential derailment risks. These risks also have increased as the railroads have increased the length, and correspondingly the weight of their trains. Maximum train lengths have increased from approximately 5,000 feet in the 1970s to approximately 17,000 feet in 2023.

Although the FRA has issued non-binding guidance, there are no FRA regulations directing specific train make-up arrangements. Under a May 2004 settlement agreement, CPUC has the power to

enforce the train make-up rules set by the two major freight railroads operating in the state, UPRR and BNSF, for their own operations. These railroads also are required to notify the CPUC on or before the day they change their make-up rules, including an explanation of the processes or decision criteria employed by the railroads in order to assess the safety of the proposed rules and the application of the criteria to the site in question.[10] However, the railroads can remain in compliance with the settlement agreement and still alter their make-up rules in ways that potentially increase derailment risks.

It is because of these potential risks that RSD initiated the HGAP inspection teams to conduct field inspections to determine how changes in make-up rules may affect the safety of railroad operations. Among other activities, RSD inspectors discuss the configuration changes with train crews to discover whether the crews themselves have experienced increased difficulties, received adequate training, or perceived any new risks in train operations over sections of track where the new rules are in force. HGAP teams also assess the effects train make-up rule changes may have on tracks and bridges, such as increased rail wear or the structural integrity of bridges.

When HGAP personnel find that a rule change may increase safety risks, they bring their concerns to the attention of RSD management. RSD managers and inspectors may then meet with railroad management to discuss these concerns. The HGAP team can explain its findings, share any risk data team members have collected, and show railroad management why RSD believes that the rule change should be modified or withdrawn.

J. Safety Complaint Investigations

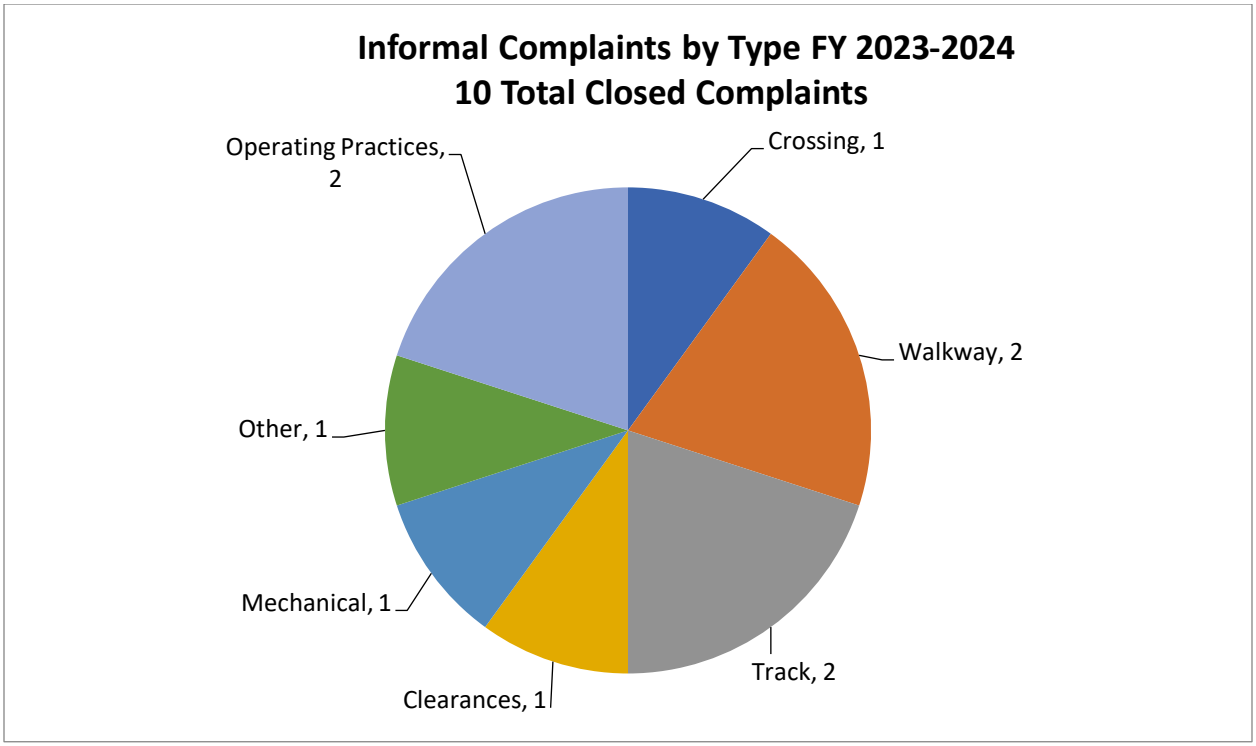
RSD investigates complaints related to railroad safety that are received from a variety of sources, including railroad employees, railroad unions, and the public. In FY 2023-2024, RSD investigated 10 such complaints.

In these investigations, RSD inspectors may find non-conformances with railroad safety regulations. Where these involve state regulations, RSD directs the railroads to comply. If the complaint pertains to federal regulations, RSD inspectors communicate with the FRA to inform that agency of the complaint, avoid duplication of efforts, and ensure that the complaint is properly resolved.

In many instances, RSD looks beyond the specific texts of applicable regulations to identify non-regulated risks and other safety issues raised by complainants, and strive to compel railroads, shippers and other entities associated with the complainants' safety concerns to find resolutions. However, in some cases, such as complaints regarding homelessness, RSD may lack the regulatory authority to resolve an issue raised by a complainant despite the safety hazards they describe.

---

[10] Commission Decision 06-02-013, *Opinion Modifying Decision 97-09-045 To Conform It to Federal Court Decisions*, February 16, 2006, https://docs.cpuc.ca.gov/published/Final_decision/53822.htm



K. General Order Training Program

The General Order Training Program (GOTP) was initiated in 2016 to improve RSD inspectors' understanding and uniform application of CPUC's railroad safety GOs and related Public Utilities Code sections. Each of the RSD's Railroad Operations and Safety Branch (ROSB) four regions has two presenters, who are responsible for training their region's inspectors. Inspectors receive this training every two years to retain proficiency. The two presenters also give condensed presentations to railroads and businesses on the state's GOs at their request. The GOTP represents RSD's commitment to continuing education for its inspectors. Continued internal training and external education improves compliance and reduces the risks of railroad accidents and injuries.

New inspector and refresher training for FY 2023-2024 started in July 2023 with several updated presentations. Seven training sessions were held covering GOs 26-D, 72-B, 75-D, 118-A, 161, Public Utilities Code 7662, General Order and Code Enforcement, and General Order Inspection Reporting. A total of 12 inspectors received training in-person. Classroom training is followed by field exercises that reinforce the application of GOs and PU Codes.

RSD continues to expand and update its GOTP program to ensure continued expertise in its inspector ranks. In addition to training inspectors, RSD contacts railroads reminding them of their requirement to report incidents, derailments, service interruptions, and hazardous materials releases to the Governor's Office of Emergency Services (Cal OES) and the California Highway Patrol.

GO 118-A post-class field training

GO 26-D post-class field training

II. Mandated Rail Safety Inspections and Investigations

A. Inspection Process

RSD inspectors perform investigative and surveillance activities to detect instances of non-compliance (commonly called "defects" in RSD and FRA railroad safety-related documents) with both state and federal railroad safety laws and regulations.

Federal: To enforce federal regulations, RSD inspectors operate under the CPUC's Safety Participation Program agreement with the FRA (49 CFR Part 212).

State: The primary California railroad safety laws and regulations enforced by RSD inspectors are CPUC GOs and the Public Utilities Code sections applicable to rail. A list of these laws and regulations is contained in Appendix A. The GOs most frequently cited by RSD are 26-D (Regulations Governing Clearances on Railroads and Street Railroads with Reference to Side and Overhead Structures, Parallel Tracks, Crossings of Public Roads, Highways and Streets), and 118-A (Regulations Governing the Construction, Reconstruction, and Maintenance of Walkways Adjacent to Railroad Trackage and the Control of Vegetation Adjacent Thereto).

Among other provisions, GO 26-D establishes minimum standards for overhead and side clearances (i.e., distances) between freight cars and other equipment on railroad tracks on the one hand, and nearby objects on the other, such as switch boxes, signals, parallel tracks, and other rail apparatus; platforms, overhead roads, bridges, buildings, and other structures; and other types of potential obstructions. These standards are necessary to prevent contact between trains and obstructions to prevent train personnel riding on the sides or tops of trains from being hit by such objects and becoming injured or killed.

Among other provisions, GO 118-A requires railroad corporations to provide reasonably safe and adequate walkways adjacent to their tracks in all switching areas, and sets standards for walkway slopes and ballasting. These standards are necessary to prevent persons from tripping and falling on uneven walkways, especially in the path of moving trains, possibly causing injury or death.

In general terms, RSD inspectors perform the following steps:

1. After arriving at a site, inspectors record noncomplying conditions at the facility or other railroad location in question, including the location, type, and extent of each defect discovered.
2. Inspectors present inspection findings to a responsible party representing railroad management and discuss how the defects can be corrected.

3. For non-compliances with FRA regulations, inspectors issue an FRA Inspection Report (Form FRA F 6180.96) to the railroad within 24 hours after the inspection. The RSD inspector may recommend that FRA issue a violation, with an accompanying civil penalty. The FRA Chief Counsel reviews the recommendation and determines whether FRA will issue a violation and the amount of the civil penalty, if any, to be assessed.[11]

4. For non-compliances with CPUC General Orders, inspectors issue a General Order Inspection Notification (GOIN, also referred to as a GO Report) to the railroad within 24 hours after the inspection. For GOs 26-D and 118-A and Pub. Util. Code Section 7662 (which sets signage requirements; see Appendix A), CPUC Resolution ROSB-002[12] sets out a framework under which the railroad is given a period to correct non-compliances. If a follow-up inspection after that period finds that the non-compliances have not been corrected, another GOIN is issued, and the Director or Deputy Director of the Division has the authority to issue a citation, with accompanying fines, within a set period. A process is provided under which the railroad can request extensions and appeal the citation per resolution ALJ-377.

B. Regular Inspections

The following are statistics on the number and results of regular inspections performed by RSD inspectors during FY 2023-2024. Examples of regular inspections are presented in Appendix C.

Total inspections

RSD inspectors:

- Performed 4,695 inspections and follow-up inspections to monitor the railroads' compliance with federal and state laws, and CPUC GOs.
- Performed 4 tunnel inspections.
- Cited 16,682 federal regulation defects.
- Recommended civil penalties to FRA for 782 violations of federal regulations.

11 There is a wide range of financial penalties for violations of applicable federal railroad safety regulations, depending on which regulation is violated and whether the violation is ruled as "willful." A penalty may be assessed against an individual only for a willful violation. The final penalty amount depends on the resolution of a claims conference between the railroad and the FRA. Penalties for violations of hazardous materials-related regulations potentially are much higher. For more information see https://railroads.dot.gov/legislation-regulations/civil-penalties-schedules-guidelines.

12 As modified or otherwise affected by subsequent Commission actions, including Commission Resolution ALJ-299.

- Completed 401 CPUC GO reports that identified 1,226 state regulation defects.[13]

RSD Hazardous Materials Inspectors:

RSD inspector briefing new employees at a transloading facility in Taft

- Inspected or evaluated 22,331 units[14] in 1,122 FRA inspection reports.
- Identified 2,209 federal regulation defects.
- Recommended 41 violations for civil penalties for federal defects identified during regular inspection activity.

Hazardous materials units include each tank car with each record to ensure accurate documentation of the substance contained in a hazardous materials rail car or package, each evaluation of a hazardous materials unintended release mitigation plan, each inspection of the shipper's paperwork, and other similar items.

RSD hazardous materials inspectors conduct a variety of activities, including the investigation of accidents involving the actual or threatened release of hazardous materials as reported by the Governor's Office of Emergency Services 24-hour Warning Center. Inspectors also conduct

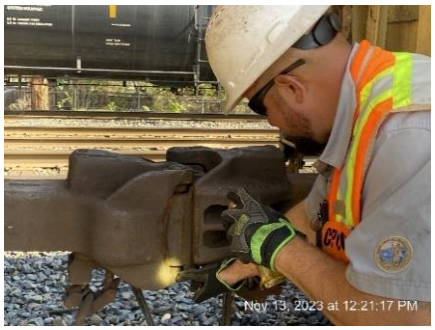
13 Non-conformances with FRA regulations ("federal regulation defects") can only be reported by inspectors certified in the applicable railroad discipline in which the defects occur (e.g., track defects are reported by track inspectors). Accordingly, the numbers of federal defects are disaggregated by discipline in the following discussion. However, inspectors from any of the five railroad disciplines can identify GO defects, and these defects are not disaggregated by discipline in the discussion.

14 A unit is a metric used to measure the activities of RSD inspectors. Units can be physical objects like locomotives, signal systems, and paper and electronic records generated by railroad companies; or actions performed by railroad personnel, such as switching operations. These are inspected or otherwise evaluated by inspectors for compliance with applicable regulations and railroad operating rules.

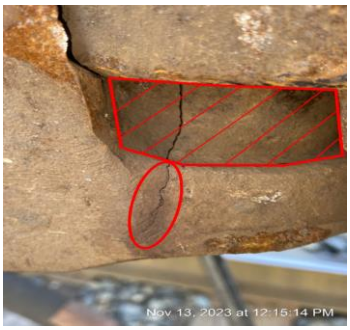
unannounced inspections at the facilities of shippers, consignees, freight forwarders, intermodal transportation companies, and railroads.

RSD hazardous materials inspectors also inspect facilities to ensure compliance with CPUC GO 161, Rules and Regulations Governing the Transportation of Hazardous Materials by Rail. Inspectors look for the appropriate grounding of cars to prevent dangerous static electricity buildup during unloading. GO 161 also has requirements for reporting the release or threatened release of hazardous materials where there is a reasonable belief that the release poses a significant present or potential harm to persons, property, or the environment.

RSD Equipment Inspectors:



RSD inspector identifying crack in coupler.



This crack, which extended outside of the cross-hatched area, was out of compliance

- Inspected or evaluated 67,838 units in 807 FRA inspection reports.
- Identified 8,145 federal regulation defects.
- Recommended 652 violations for civil penalties for federal regulation defects identified during regular inspection activity.

Equipment units include each locomotive, each rail car, inspection records or specific components thereof.

Pub. Util. Code Section 765.5(d) requires CPUC to establish, by regulation, a minimum inspection standard to ensure that at the time of inspection, that railroad locomotives, equipment, and facilities located in the Class I railroad yards will be inspected not less frequently than every 120 days (three times per year).

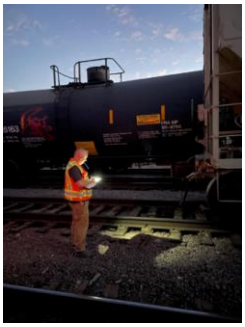
Approximately 2.5 million rail cars carrying food products, minerals, chemicals and other types of freight enter California annually. RSD significantly increased the number of units, reports, defects and violations in FY 23/24 over the previous year, FY 22/23:

- Units inspected increased from 36,343 in FY 22/23 to 67,838 in FY 23/24
- FRA reports increased from 428 in FY22/23 to 807 in FY 23/24
- FRA defects increased from 2,723 in FY 22/23 to 8,145 in FY 23/24
- FRA violations increased from 249 in FY 22/23 to 807 in FY 23/24

This increase was due to filling three vacancies that had negatively impacted RSD's inspections in FY 22/23. Even though numerous inspections and defective conditions, and a large amount of civil penalty violations, were recommended during FY 23/24, as noted above, RSD still did not satisfy the above Public Utilities Code requirement. Of the 72 facilities, 60 sites were inspected as required during the fiscal year. The remaining 12 locations have significantly reduced activity and were inspected at least once during the FY.

It is imperative to note that larger railyards are hubs where interstate trains first enter California from Oregon, Nevada, Arizona and Mexico. There are several major rail hubs that receive these trains in the state. Railroad employees are required to conduct inspections and repair rail equipment at these locations. Trains received at these hubs (some referred to as classification yards) are inspected, repaired as needed, categorized for dissemination into short destination trains (referred to as "local" trains) before delivering the rail cars to the many varied businesses and industries throughout the state. Likewise, rail car shipments originating in California for export out of state are also staged at these larger rail hubs. Local trains pick up and inspect rail cars from smaller rail yards and deliver them to these larger rail hubs. The rail cars and locomotives are once again required to be inspected, repaired as needed, disseminated into longer trains for transcontinental shipment before departing the state. Railroads must conduct all required component testing on outbound trains. RSD equipment inspectors can more efficiently inspect rail cars and locomotives, and observe the competency of each railroad's own inspectors, in far greater numbers by doing the bulk of inspections at these larger facilities. This provides greater risk reduction to the public.

RSD Operations Inspectors:



RSD Inspector conducting an early morning inspections of a BNSF yard

- Inspected or evaluated 7,230 units in 839 FRA inspection reports.
- Identified 1,335 federal regulation defects.
- Recommended 56 violations for civil penalties for federal regulation defects identified during regular inspection activity.

Operations inspection activities include ensuring the accuracy of train consist (train make up) records, observing crews performing switching operations, reviewing the accuracy and completeness of accident records, ensuring compliance with certifications and licenses, and similar items. Position vacancies and employees in training limited the ability of staff to provide statewide coverage.

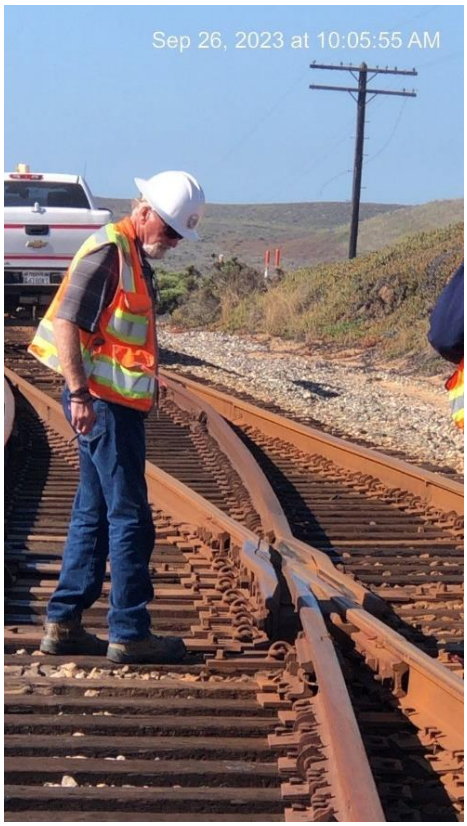
RSD Signal Inspectors:

RSD inspectors observing operation
of an electronically-controlled rail switch

- Inspected or evaluated 3,684 units in 327 FRA inspection reports.
- Identified 1,243 federal regulation defects.
- Recommended 15 violations for civil penalties for federal regulation defects identified during regular inspection activity.

Signal inspection units include each signal system structure, maintenance and testing records, warning devices at crossings, and other electronic or mechanical signaling systems.

RSD Track Inspectors:



RSD inspector observing a switch component for excessive wear

- Inspected or evaluated 20,030 units in 2,447 FRA inspection reports.
- Identified 3,709 federal regulation defects.
- Recommended 11 violations for civil penalties for federal regulation defects found during regular inspection activity.

Track units include a mile of track, a switch, a roadway maintenance machine, a record, and other similar items involving the track structure.

Pub. Util. Code Section 765.5(d) requires CPUC to establish by regulation a minimum inspection standard to ensure that all branch and main line track is inspected not less frequently than every 12 months.

Inspectors use several methods to inspect the track. Each method has its benefits and drawbacks depending on the terrain, steepness, and location.[15]

The methods include:

- Physically walking the track.
- Riding in a hi-rail vehicle (motor vehicle outfitted with steel rail guide wheels).
- Riding in an FRA or railroad owned geometry car (a passenger coach equipped to identify geometric track deficiencies that create accident risks).

The Pub. Util. Code Section 765.5(d) (mandate) specifically identifies "all branch line and main line" track miles. In the 1990s, there was a surge of class I railroad mergers in California. These mergers also brought about numerous branch line sell offs to other railroad operators. These branch lines became short lines, or they were redesignated as an industrial lead. The mandate now applies to these track designations, but it is not, nor was it ever, inclusive of rail yard tracks.

- FY23-24 Mainline, short line and industrial lead (branch line) track miles: 6,888
- FY23-24 Yard track miles: 2,951
- Total track miles: 9,839

In FY 2023-2024, RSD inspectors surveyed 7,033 miles of track by conducting physical walking and hi-rail inspections. RSD inspectors conducted numerous follow-up inspections to monitor the railroads' compliance and verify that recorded defects had been corrected.

The miles inspected satisfied the mandate, but did not include all tracks in the state, specifically some rail yards, short lines and industrial leads. Higher speed, higher traffic density main line tracks must be a priority at the beginning of each year, based on the fact they pose greater public risk in the event of derailments and other related incidents. This priority is part of RSD's inspection standard as required in the mandate, but also includes all other tracks not mandated. Because of track inspector vacancies, only some low risk, low traffic density short lines and industrial lead inspections were not completed and thus rolled over into FY 24/25. RSD is in hiring phase to fill these vacancies.

C. Focused Inspections

A focused inspection is an inspection that usually concentrates on a specific discipline's regulations and/or a specific location or theme. These inspections target class 1 and short line railroads, including yards, main tracks, hazmat shippers and other industrial tracks that pose the greatest safety risks, based on inspection data, accident history, and rail traffic density. Focused inspections involve

[15] The 2013-2014 Annual Report to the Legislature provides a detailed explanation about the methods of track inspections: http://www.cpuc.ca.gov/rosb/

inspectors from a variety of disciplines or multiple inspectors from a single discipline, working together at a specific location, type of rail operation, or a rail facility. Typically, focused inspections are joint efforts between the FRA and RSD, although Pub. Util. Code Section 767.5 permits the CPUC to conduct the inspections as the CPUC determines to be necessary.

Focused inspections allow RSD inspectors to evaluate all aspects of a railroad or railroad facility's operational and maintenance practices and procedures. This includes evaluation of railroad personnel's technical expertise and experience, and organizational safety culture. If corrective actions are recommended by RSD inspectors, a follow-up inspection is performed to determine progress by the railroad entity in carrying out the recommended actions. An example of a focused inspection is shown in Appendix D.

> Pub. Util. Code Section 765.5(e) requires CPUC to conduct focused inspections of railroad yards and track.

RSD staff, with FRA inspectors and refinery personnel, conducting an initial job briefing at the Chevron Richmond facility before a focused inspection

In FY 2023-2024, RSD inspectors performed 30 focused inspections, which consisted of:

- 7 hazardous materials inspections.
- 4 track inspections.
- 4 operations inspections.
- 5 signal inspections.
- 10 cross-discipline inspections.

D. Accident Investigations

RSD inspectors evaluate each accident when reported to the CPUC, usually by Cal OES, and determine the appropriate investigative response based on accident severity criteria, including:

- Impact to the public (evacuations, injuries, fatalities).
- Injuries or fatalities to railroad employees or passengers.
- Environmental impact.
- Impact on commercial transportation (highway closures, commuter interruptions).
- Violations of state or federal railroad safety regulations or operating rules.

In FY 2023-2024, there were 863 reported railroad-related incidents in California, up from 795 in the previous fiscal year. Each incident falls into one or more categories: 524 were related to crossing or trespasser incidents (207 of which were at a grade-crossing), 76 were materials or hazardous materials spills, 197 were derailments, and 66 were in other categories. These incidents resulted in a total of 228 fatalities and 138 injuries (compared to 215 fatalities and 120 injuries in the previous year), mostly to trespassers and road users. RSD supervisors determined that 322 incidents required further investigation. Appendix E describes an example of an accident investigation performed by RSD inspectors.

Pub. Util. Code Section 315 requires CPUC to investigate the cause of all accidents occurring within the state upon the property of any public utility directly or indirectly connected with its maintenance or operation, resulting in loss of life or injury to person or property damage.

E. Security Inspections

Among other provisions, the Local Community Rail Security Act of 2006, Pub. Util. Code Sections 7665 through 7667, requires that every operator of rail facilities in the state implement an infrastructure protection program to protect rail infrastructure in the state from acts of sabotage, terrorism, or other crimes.

The infrastructure protection program is to be updated by the rail operator at least once every year, and the updated plan submitted to CPUC. Also, the operators are to provide CPUC with a risk assessment incorporating a broad range of risk-related information. RSD reviews the programs, and it may conduct additional inspections to facilitate the reviews and order rail operators to improve, modify, or change their programs to comply with the Act.

In FY 2023-2024, RSD inspectors performed security inspections on all 40 railroads that operate in California.[16] All railroads inspected followed relevant state railroad security-related laws. Amtrak, UPRR, and BNSF railroads have national security plans that are reviewed annually by the FRA. RSD inspectors reviewed each railroad's security plan at various locations within the state along with Webex meetings and telephone interviews. These railroads are identified in the chart below.

Following is a table identifying the railroad, inspection date, and compliance status.

RAILROAD	DATE OF INSPECTION	COMPLIANT	COMMENTS
Altamont Commuter Express	03/20/24	Y	
Amtrak Los Angeles	06/25/24	Y	Conducted through Webex
Amtrak Oakland	06/25/24	Y	Conducted through Webex
Arizona California Railroad	03/19/24	Y	
Baja California Railroad	04/29/24	Y	Conducted through Webex
BNSF	05/17/24	Y	
Cal Train	06/25/24	Y	Conducted through Webex
California Northern Railroad	03/19/24	Y	
Central California Traction Company	01/17/24	Y	Conducted through Webex
Central Oregan Pacific Railroad	03/19/24	Y	
Goose Lake Railway	06/25/24	Y	Conducted by phone interview
Los Angeles Junction Railroad	02/26/24	Y	
Merced County Central Valley Railroad	04/10/24	Y	Conducted by phone interview

[16] Central Oregon Pacific Railroad (CORP) was added to the list of railroads operating in California during this FY. CORP is owned and operated by Genesee & Wyoming. In addition, the Sierra Northern Railroad Ventura Railroad is operated by the Sierra Northern Railroad on the old Fillmore Western Railroad line. It was determined that these are two individual railroads, which require a security plan for each location.

Metrolink	06/28/24	Y	
Modesto & Empire Traction	01/17/24	Y	
Napa Valley Railroad	05/21/24	Y	Conducted through Webex
Niles Canyon Railway	06/21/24	Y	Conducted through Webex
North County Transit District	06/24/24	Y	
Northwestern Pacific Railroad Company	05/21/24	Y	
Oakland Global Rail Enterprise	05/22/24	Y	Conducted through Webex
Pacific Harbor Lines	02/26/24	Y	
Pacific Southwest Railway Museum	06/21/24	Y	Conducted by phone interview
Quincy Railroad	06/20/24	Y	Conducted by phone interview
Richmond Pacific Railroad	05/22/24	Y	
Sacramento Valley Railroad	04/10/24	Y	Conducted by phone interview
San Diego & Imperial Valley	03/19/24	Y	
San Francisco Bay Railroad	06/20/24	Y	Conducted by phone interview
San Joaquin Valley Railroad	03/19/24	Y	
Santa Cruz & Big Trees	06/21/24	Y	Conducted by phone interview
Santa Maria Valley Railroad	06/05/24	Y	
St Paul & Pacific Railroad	06/21/24	Y	Conducted by phone interview
Sierra Northern Railroad	01/20/23	Y	
Sierra Northern Railroad Ventura	01/18/24	Y	
SMART	05/21/24	Y	
So. Cal Ramp Services	05/02/24	Y	
Stockton Terminal & Eastern	03/20/24	Y	

Trona Railroad	03/29/24	Y	
UPRR	06/28/24	Y	Conducted by phone interview. Note: security manager is located in Omaha NE.
Ventura County Railroad	03/19/24	Y	
West Isle Line	12/04/23	Y	

III. Investigations of Runaway Trains and Other Uncontrolled Train Movements

Pub. Util. Code Section 916.1 requires the CPUC to annually report the results of its investigations of runaway trains or other uncontrolled train movements that threaten public health and safety, as per Pub. Util. Code Section 7661. Similarly, Pub. Util. Code Section 7711.1 requires the CPUC to collect and analyze near-miss data for incidents in California occurring at railroad crossings and along the railroad rights-of-way. Pub. Util Code Section 7711.1 states, "[f]or purposes of this section, "near-miss" includes a runaway train or any other uncontrolled train movement that threatens public health and safety reported to the Commission pursuant to Section 7661."[17]

In FY 2023-2024, RSD investigated four uncontrolled train movements. An example of such an investigation is shown in Appendix F of this report.

[17] Pub. Util. Code Section 7661 requires such uncontrolled movements to be reported to the California Governor's Office of Emergency Services, which in turn notifies CPUC.

IV. Derailment and Local Safety Hazard Sites

Pub. Util. Code section 916.2 requires the CPUC to report to the Legislature on sites on railroad lines in the state it finds to be hazardous. The sites on railroad lines the CPUC identified as hazardous were identified in 1997 in a formal Commission Decision, D.97-09-045, and were termed Local Safety Hazard Sites (LSHSs). Two methods to determine sites were used: 1) sites determined by a statistically significant higher derailment rate than elsewhere on the line, and 2) sites determined by the operating railroad to require stricter operating practices than elsewhere on the line.

LSHS locations have not changed their physical characteristics, and therefore no change has been made to the list since 1997.

Section 916.2 also requires the CPUC to include a list of all railroad derailment accident sites in the state on which accidents have occurred within at least the previous five years, describe the nature and probable causes of the accidents, and indicate whether the accidents occurred at or near sites that the CPUC has determined to be hazardous.

The list of derailments is located on the CPUC's website at http://www.cpuc.ca.gov/rosb/.

Table 1 lists the accidents that have occurred "at or near" an identified local safety hazard site within the previous five years pursuant to Pub. Util. Code section 916.2(a). The original analysis identifying these sites was based on the higher risk of main line and siding accidents.

Table 1—List of Local Safety Hazard Sites

*LSHS #	CURRENT LSHS TRACK LINE	PREVIOUS LSHS TRACK LINE AT TIME OF D.97-09-045[18]	RR MILEPOST	NUMBER OF DERAILMENTS 2019-23	OVERLAP WITH SITE #**
16	UPRR Mojave Subdivision	SP Bakersfield Line	335.0 to 359.9	21	
9	UPRR Black Butte Subdivision	SP Shasta Line	322.1 to 332.6	1	#10
10	UPRR Black Butte Subdivision	SP Shasta Line	322.1 to 338.5	0	#9
19	UPRR Mojave Subdivision	SP Bakersfield Line	463.0 to 486	0	
12	UPRR Roseville Subdivision	SP Roseville District	150.0 to 160.0	2	

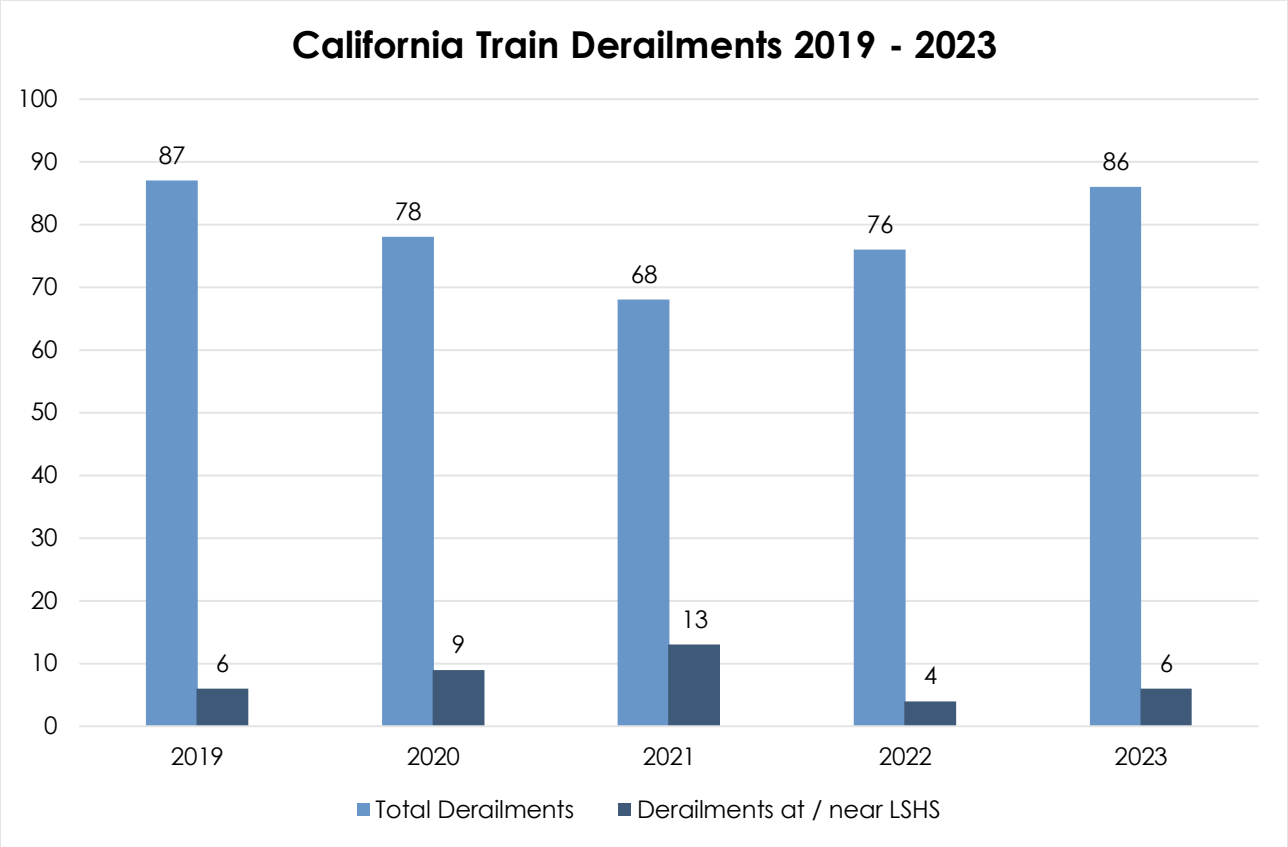
[18] In 1996, UPRR purchased Southern Pacific Railroad.

6	UPRR Yuma Subdivision	SP Yuma Line	542.6 to 589.0	3	#3, #4
22	UPRR Canyon Subdivision	UP Feather River Division	234.0 to 240.0	0	#25
25	UPRR Canyon Subdivision	UP Feather River Division	232.1 to 319.2	2	#22, #23
3	UPRR Yuma Subdivision	SP Yuma Line	535.0 to 545.0	0	#6
23	UPRR Canyon Subdivision	UP Feather River Division	253.0 to 282.0	0	#25
4	UPRR Yuma Subdivision	SP Yuma Line	586.0 to 592.0	0	#6
26	BNSF Gateway Subdivision	UP Bieber Line	15.0 to 25.0	0	
31	BNSF San Diego Subdivision	ATSF San Diego	249.0 to 253.0	1	
1	UPRR Coast Subdivision	SP Coast Line	235.0 to 249.0	0	
7	Central Oregon and Pacific Railroad Siskiyou Subdivision	SP Siskiyou Line	393.1 to 403.2	0	
27	UPRR L.A. Subdivision, Cima Grade		236.5 to 254.6	2	
28	BNSF Cajon Subdivision	ATSF Cajon	53.0 to 68.0	4	
29	BNSF Cajon Subdivision	ATSF Cajon	81.0 to 81.5	1	
30	BNSF Cajon Subdivision	ATSF Cajon	55.9 to 81.5	1	

* The LSHS number (LSHS #) is for identification purposes only and does not indicate any ranking.

** The two methods of determining LSHSs described earlier sometimes produce different site boundaries. Where a site's boundaries identified by one method overlap with another site identified by the different method, the other site is listed in this column.

Within the previous five calendar years, California experienced 395 derailments. Of that total, 38 derailments, or 9.62 percent, occurred at or near local safety hazard sites. For this report, "at or near" includes any location of railroad track along the railroad right-of-way that is contained in the segment of railroad designated to be a local safety hazard site, including the distance of track one mile on each side of the local safety hazard site. Maps of local safety hazard sites are included in Appendix G.



Source: Federal Railroad Administration, Office of Safety Analysis:
Total derailments: Table 1.12, Ten Year Accident/Incident Overview and Table 3.18, Accident By State/Railroad
Total derailments at/near LSHS: Table 3.11, Accident Detail Report, as calculated by RSD staff

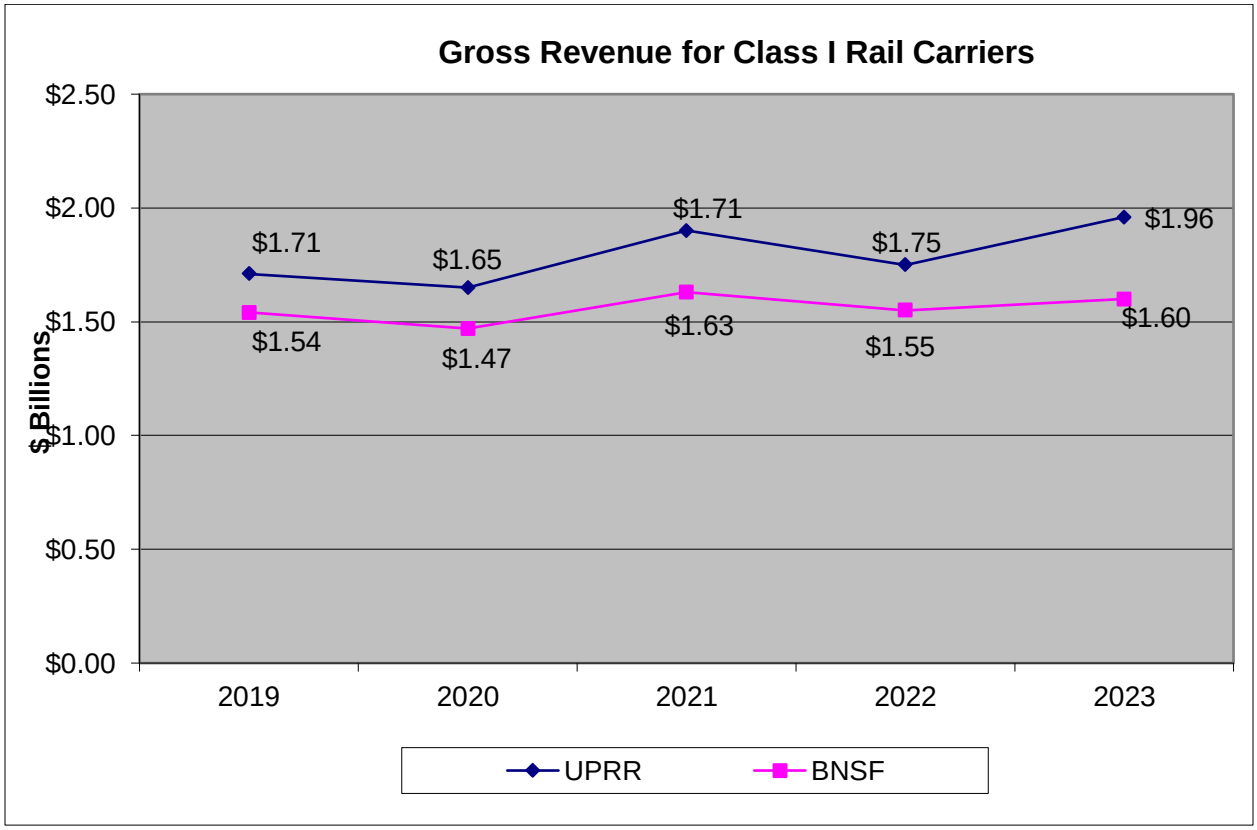
V. Regulatory Fee Impact on Competition

Pub. Util. Code Section 309.7 requires the activities of the CPUC that relate to safe operation of common carriers by railroad, other than those relating to grade crossing protection, to be supported by the fees paid by railroad corporations.

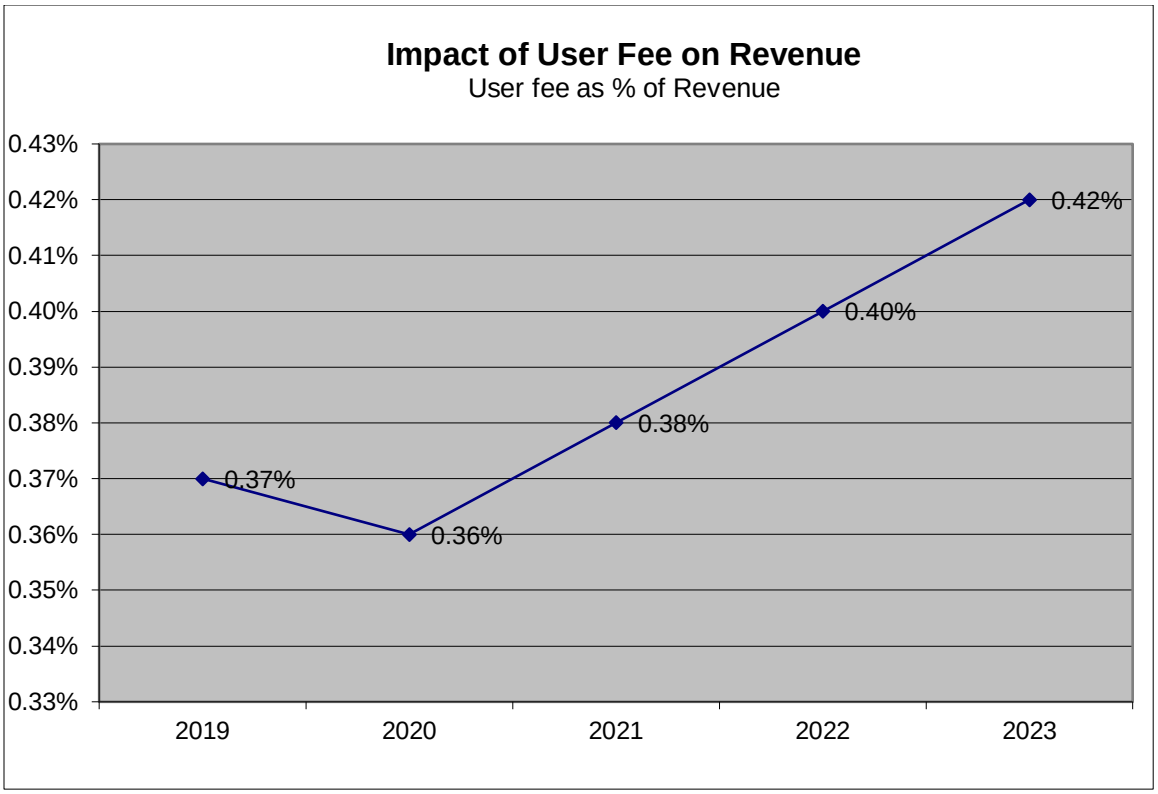
Pub. Util, Code Section 916.3 requires the CPUC to report annually on the impact on competition, if any, of the regulatory fees assessed by railroad corporations for the support of CPUC's activities.

In FY 2023-2024, the Legislature appropriated $15.41 million from the CPUC Transportation Reimbursement Account. The fees paid by the railroad corporations are deposited into a dedicated subaccount within the CPUC Transportation Reimbursement Account and are the sole funding source for the ROSB program. The fees do not fund any other CPUC programs.

The railroad user fees assessed in FY 2023-2024 on UPRR and BNSF constituted 0.42 percent of their combined intrastate revenues. This amount had a negligible impact on the major California railroads' profits and was unlikely to have had any effect on competition. The following two graphs show (1) annual railroad revenue; and (2) the percentage of railroad revenue represented by user fees.



Source: The railroads report their revenues to CPUC annually to determine the user fee that funds ROSB


Impact of User Fee on Revenue
User fee as % of Revenue
0.43%
0.42%
0.41%
0.40%
0.39%
0.38%
0.37%
0.36%
0.35%
0.34%
0.33%
0.37%
0.36%
0.38%
0.40%
0.42%
2019
2020
2021
2022
2023

VI. Challenges for Rail Safety

Trespassing on Railroad Property by Homeless Individuals

During the last year, RSD continued to observe rail safety issues associated with trespassing by homeless individuals and encampments in and around railroad properties. These present public safety concerns and affect the personal safety of railroad employees and RSD inspectors.

A railroad-related trespasser is any person who enters or remains upon an area on railroad property that he or she is not authorized to access, including railroad equipment, or in railroad facilities near railroad equipment and on a railroad's right-of-way (ROW).[19] Trespassing along a railroad's ROW and within railroad infrastructure, such as rail yards, is the leading cause of rail-related deaths in America. Hundreds of people die each year in the U.S. from rail-related trespassing accidents, and additional hundreds are injured.

During calendar year 2023, the U.S. experienced 1,382 pedestrian rail trespassing casualties (718 fatalities and 664 injuries). California had 324 total casualties (190 fatalities and 134 injuries), more than any other state.[20]

Trespassing by homeless people is a particularly difficult problem. Many locations in California near railroad tracks have been occupied by homeless individuals and encampments. Homeless tents and other structures, possessions, and debris frequently are placed in unsafe proximity to railroad tracks. Apart from the risk of being struck by passing rail equipment, such items create hazards for railroad employees and sometimes catch fire, damaging rail infrastructure and the surrounding area, and creating train service delays.

Apart from the risks to trespassers from passing trains when they are on or near tracks, homeless encampments often create unsanitary conditions and other hazards, which impede a railroad's inspections of train equipment and tracks necessary for safe operations.

RSD has the regulatory authority to enforce measures that can reduce some safety issues created by this situation. The disposal of waste materials or other disturbances on walkways that create tripping hazards in the vicinity of a railroad's ROW would violate GO 118-A, which sets standards for walkway surfaces alongside railroad tracks. GO 118-A states, "The Commission, after hearing, may order the railroad corporation to eliminate any unsafe walkway condition and may specify such

---

19 Kathryn Stanchak and Marco DaSilva, *Trespass Event Risk Factors*, U.S. Department of Transportation, Federal Railroad Administration, DOT-VNTSC-FRA-14-03, November 2014, p. 5, https://railroads.dot.gov/elibrary/trespass-event-risk-factors

20 Operation Lifesaver, "Trespassing Casualties by State," June 6, 2024, Trespassing Casualties by State | Operation Lifesaver (oli.org)

reasonable time within which the improvement shall be completed as may be appropriate under the circumstances."

Similarly, tents, wooden structures, and miscellaneous debris in homeless encampments may violate GO 26-D, which sets clearance standards between railroad tracks and structures and obstructions adjacent to tracks. GO 26-D states that "no railroad or street railroad corporation shall operate any cars, trains, motors, engines, or other rolling equipment over its own or other tracks, except as hereinafter provided, on which overhead or side clearances, or clearances between tracks, are less than the minimum herein prescribed…"

To fulfill commitments made in CPUC's Environmental and Social Justice Policy, RSD staff regularly meet with local governmental officials and railroad company personnel to discuss ways of addressing these and other safety issues. Some railroads, such as UP, have website links where encampment locations and associated unsafe conditions can be reported and data such as photographs and maps can be entered. Other railroads have furnished toll free reporting numbers and telephone numbers of managers responsible for encampment issues to RSD.

Appendix A – State Railroad Safety Laws and General Orders

AUTHORITY	STATUTORY SPECIFIED TASKS (PARAPHRASED)	CPUC-GENERAL ORDERS
Pub. Util. Code Sec. 309.7 (a)	RSD is responsible for inspection, surveillance, and investigation of the rights-of-way, facilities, equipment, and operations of railroads and public mass transit guideways, and for enforcing state and federal laws, regulations, orders, and directives relating to transportation of persons or commodities, or both, of any nature or description by rail. RSD shall advise the Commission on all matters relating to rail safety, and shall propose to the Commission rules, regulations, orders, and other measures necessary to reduce the dangers caused by unsafe conditions on the railroads of the state.	
Pub. Util. Code Sec. 309.7 (b)	RSD shall exercise all powers of investigation granted to the Commission, including rights to enter upon land or facilities, inspect books and records, and compel testimony. RSD shall employ sufficient federally certified inspectors to ensure at the time of inspection that railroad locomotives and equipment and facilities located in class I railroad yards in California are inspected not less frequently than every 120 days, and all main and branch line tracks are inspected not less frequently than every 12 months.	GO 22-B: Requires that railroads immediately furnish the Commission notification of all train collision and derailments resulting in loss of life or injury, all bridge failures, and all highway crossing accidents resulting in loss of life or injury.
Pub. Util. Code Sec. 309.7 (c)	RSD shall, with delegated CPUC attorneys, enforce safety laws, rules, regulations, and orders, and to collect fines and penalties resulting from the violation of any safety rule or regulation.	Resolution ROSB-002 established a civil penalty citation program for enforcing compliance with safety requirements for railroad carriers
Pub. Util. Code Sec. 309.7 (d)	(d) ROSB activities shall also be supported by the fees paid by railroad corporations. The activities of the division of the Commission responsible for consumer protection and safety that related to grade crossing protection shall be supported by funds appropriated from the State	

AUTHORITY	STATUTORY SPECIFIED TASKS (PARAPHRASED)	CPUC-GENERAL ORDERS
	Highway Account in the Public Transportation Fund.	
Pub. Util. Code Sec. 315	The Commission shall investigate the cause of all accidents occurring within this state upon the property of any public utility or directly or indirectly arising from or connected with its maintenance or operation, resulting in loss of life or injury to person or property and requiring, in the judgment of the Commission, investigation by it, and may make such order or recommendation with respect thereto as in its judgment seems just and reasonable.	
Pub. Util. Code Sec. 421	(a)-(g) The Commission shall annually determine a fee and is permitted to expend funds for specified purposes.	
Pub. Util. Code Sec. 761	Whenever the Commission finds that rules, practices, equipment, appliances, facilities, or service of any public utility are unjust, unreasonable, unsafe, improper, inadequate, or insufficient, the Commission shall fix the rules.	GO 27-B: Filing and posting of railroad timetables and changes.
Pub. Util. Code Sec. 765.5	(a) The purpose of this section is to provide that the Commission takes all appropriate action necessary to ensure the safe operation of railroads in this state. (b) The Commission shall dedicate sufficient resources necessary to adequately carry out the State Participation Program for the regulation of rail transportation of hazardous materials as authorized by the Hazardous Material Transportation Uniform Safety Act of 1990 (P.L. 101-615). (c) On or before July 1, 1992, the Commission shall hire a minimum of six additional rail inspectors who are or shall become federally certified, consisting of three additional motive power and equipment inspectors, two signal inspectors, and one operating practices inspector, for the purpose of enforcing compliance by railroads operating in this state with state and federal safety regulations. (d) On or before July 1, 1992, the Commission shall establish, by regulation, a minimum	

AUTHORITY	STATUTORY SPECIFIED TASKS (PARAPHRASED)	CPUC-GENERAL ORDERS
	inspection standard to ensure, at the time of inspection, that railroad locomotives, equipment, and facilities located in class I railroad yards in California will be inspected not less frequently than every 120 days, and inspection of all branch and main line track not less frequently than every 12 months. (e) Commencing July 1, 2008, in addition to the minimum inspections undertaken pursuant to subdivision (d), the Commission shall conduct focused inspections of railroad yards and track, either in coordination with the Federal Railroad Administration, or as the Commission determines to be necessary. The focused inspection program shall target railroad yards and track that pose the greatest safety risk, based on inspection data, accident history, and rail traffic density.	
Pub. Util. Code Sec. 768	The Commission may, after a hearing, require every public utility to construct, maintain, and operate its line, plant, system, equipment, apparatus, tracks, and premises in a manner so as to promote and safeguard the health and safety of its employees, passengers, customers, and the public. The Commission may prescribe, among other things, the installation, use, maintenance, and operation of appropriate safety or other devices or appliances, including interlocking and other protective devices at grade crossings or junctions and block or other systems of signaling. The Commission may establish uniform or other standards of construction and equipment and require the performance of any other act which the health or safety of its employees, passengers, customers, or the public may demand.	GO 26-D: Establishes minimum clearances between railroad tracks, parallel tracks, side clearances, overhead clearances, freight car clearances, and clearances for obstructions, motor vehicles, and warning devices to prevent injuries and fatalities to rail employees. GO 72-B: Formulates uniform standards for grade crossing construction to increase public safety. GO 75-D: Establishes uniform standards for warning devices for at-grade crossings to reduce hazards associated with persons traversing at-grade crossings. GO 118-A: Provides standards for the construction, reconstruction, and maintenance of walkways adjacent to railroad tracks to provide a safe area for train crews to work. GO 126: Establishes requirements for the contents of First-Aid kits provided by common carrier railroads.

AUTHORITY	STATUTORY SPECIFIED TASKS (PARAPHRASED)	CPUC-GENERAL ORDERS
Pub. Util. Code Sec. 916	Requires the Commission to report to the Legislature on its rail safety activities annually, on or before November 30.	
Pub. Util. Code Sec. 916.2	Requires the Commission to report to the Legislature on sites on railroad lines in the state it finds to be hazardous and list all derailment accidents sites in the state on which accidents have occurred within at least the previous five years.	
Pub. Util. Code Sec. 916.3	Requires the Commission to report on the actions CPUC has taken to comply with section 765.5, which requires CPUC to take all appropriate action necessary to ensure the safe operation of railroads in this state. Requires the Commission to report annually on the impact on competition, if any, of the regulatory fees assessed railroad corporations for the support of CPUC's activities.	
Pub. Util. Code Sec. 7661	Requires the Commission to investigate any incident that results in a notification to CEMA [now Cal OES].	
Pub. Util. Code Sec. 7662	Requires a railroad to place appropriate signage to notify an engineer of an approaching grade crossing and establishes standards for the posting of signage and flags, milepost markers, and permanent speed signs.	
Pub. Util. Code Sec. 7665.2	By July 1, 2007, requires every operator of rail facilities to provide a risk assessment to the Commission and the agency for each rail facility in the state that is under its ownership, operation, or control, and prescribes the elements of the risk assessment.	
Pub. Util. Code Sec 7665.4	(f) Requires the rail operators to develop an infrastructure protection program and requires the Commission to review the infrastructure protection program submitted by a rail operator. Permits CPUC to conduct inspections to facilitate the review and permits CPUC to order a rail operator to improve, modify, or change its	

AUTHORITY	STATUTORY SPECIFIED TASKS (PARAPHRASED)	CPUC-GENERAL ORDERS
	program to comply with the requirements of this article. (g) Permits CPUC to fine a rail operator for failure to comply with the requirements of this section or an order of the Commission pursuant to this section.	
Pub. Util. Code Sec. 7665.6	Requires every rail operator to secure all facilities that handle or store hazardous materials; store hazardous materials only in secure facilities; ensure that the cabs of occupied locomotives are secured from hijacking, sabotage, or terrorism; and secure remote-control devices. Prohibits every rail operator from leaving locomotive equipment running while unattended or unlocked, from using remote control locomotives to move hazardous materials over a public crossing, unless under specified circumstances.	GO 161: Establishes safety standards for the rail transportation of hazardous materials.
Pub. Util. Code Sec. 7665.8	Requires every rail operator to provide communications capability to timely alert law enforcement officers, bridge tenders, and rail workers of the local or national threat level for the rail industry, i.e., sabotage, terrorism, or other crimes.	
Pub. Util. Code Sec. 7673	Requires every railroad that transports hazardous materials to provide a system map showing mileposts, stations, terminals, junction points, road crossings, and location of pipelines in its rights of way.	
Pub. Util. Code Sec. 916.2 [formerly Sec. 7711]	Requires CPUC to identify local safety hazards on California railroads	
Pub. Util. Code Sec. 7711.1	Requires CPUC to collect and analyze near-miss data.	

Appendix B – Example of a Risk Management Status Report

March 27, 2024: An RSD inspector performed an inspection of the Knauf Fiberglass industry track near Redding after he was notified of a potentially unsafe working environment by a UPRR employee.

The inspector observed a plastic tarp covering approximately 100 feet of walkway adjacent to the track. The tarp was covering a sinkhole caused by erosion from recent rainstorms creating hazardous working conditions for railroad employees serving that location. A railroad employee walking over this area could slip or fall, resulting in an injury.

The RSD inspector notified local UPRR management of this hazardous condition. The UPRR manager informed the inspector that he was aware of the walkway condition and had spoken to the industry manager about repairing the eroded area.

The inspector met with UPRR and Knauff Fiberglass management to discuss the issue. As a result of this meeting, the industry committed to bringing the walkway into compliance and stated that they would make permanent repairs in August 2024 to prevent future erosion. A Risk Management Status Report was generated to document RSD's safety concerns.

April 30, 2024**:** A follow-up inspection was performed by an RSD inspector. Knauf Fiberglass had removed the tarp and installed ballast to remove the walkway hazard.

Tarp covering the walkway

Tarp removed and repairs made to the walkway

Appendix C – Examples of Regular Inspections

February 14, 2024: An RSD inspector performed an inspection of UPRR highway-rail grade crossings in South San Francisco and identified unsafe conditions at the Gateway Boulevard crossing near San Francisco International Airport. The asphalt was cracked, broken apart, or missing in several areas, creating an uneven approach to the crossing and unsafe driving conditions. There are four lanes of heavy vehicle traffic at the crossing.

These conditions were in violation of GO 72-B, which requires each railroad corporation to maintain the crossing area between lines two feet outside the rails of each track. GO 72-B also requires the surface of the highway to conform substantially to the plane of the rails for the entire area between rails, and to lines two feet outside the rails.

The inspector notified the railroad manager. The inspector and manager jointly agreed that the crossing should be brought into compliance within 30 days.

On March 6, 2024, the inspector participated in a conference call with the UPRR Director of Maintenance and the Caltrans General Manager of construction permits and road closures for South San Francisco. The UPRR representative described the current condition of the Gateway Boulevard crossing and requested an expedited road closure permit. The inspector informed Caltrans that UPRR was cited for the non-compliant condition and could be held liable if it was not corrected. A copy of GO 72-B was provided to Caltrans by RSD and after a review, Caltrans granted the permit.

On April 12, 2024, the inspector performed a follow-up inspection and verified that the railroad crossing had been repaired and complied with GO 72-B.

Damaged asphalt at crossing

Repaired crossing

February 15, 2024: RSD inspectors performed an inspection of the California Northern Railroad (CFNR) Volta Road grade crossing in Los Banos.

While performing a test of the at-grade crossing warning system, it was determined that the battery-operated standby power would not allow the lights and gates to function properly during a power outage at the crossing as required in 49 CFR 234.215, which states "A standby source of power shall be provided with sufficient capacity to operate the warning system for a reasonable length of time during a period of primary power interruption." If the grade crossing warning system is not operating properly, a vehicle driving toward the crossing would not be notified of an approaching train, which could result in a collision causing injuries or fatalities, and depending on the vehicle, possibly a derailment.

Inspectors identified a defective battery cell that was preventing the crossing warning system from recovering during the standby power test inspection. The CFNR signal maintainer immediately replaced the defective battery cell.

A federal inspection report was submitted to the railroad documenting the non-compliant condition.

Defective battery cell in need of replacement

September 11, 2023: An RSD inspector performed an inspection of the Sierra Northern Railroad (SERA) Channel Yard in West Sacramento.

During the inspection of stored tank cars containing liquified petroleum gas (LPG) in the SERA Channel Yard, the inspector discovered seven unattended tank cars that were not properly secured, having no handbrakes applied. 49 CFR 232.103(n)(1), General requirements for all train brake systems, states:

> *A sufficient number of hand brakes, to be not fewer than one, shall be applied to hold the equipment unless an acceptable alternative method of securement is provided pursuant to paragraph (n)(11)(i) of this section.*[21]

The inspector immediately notified a SERA manager of the non-complying condition. The inspector also observed a SERA employee in the vicinity and notified him of the unsafe condition. The employee applied one handbrake, making it compliant with the CFR section as well as SERA operating rules.

The inspector then discussed the securement failure with a SERA manager, and informed him that, if non-compliance continued, a violation report would be written with a recommendation for a civil penalty. The inspector filed a federal inspection report detailing the failure. RSD inspectors will schedule observation rides with the SERA operating crew to check for compliance with federal regulations and SERA railroad operating rules.

October 3, 2023: The RSD inspector performed a follow-up inspection focusing on proper securement of unattended equipment. He inspected eight tracks containing unattended rail cars and observed each to comply with the requirements of 49 CFR 232.103(n)(1).

Seven hazardous material tank cars with no handbrakes applied

[21] Section (n)(11)(i) provides that in lieu of applying handbrakes, mechanical securement devices meeting certain criteria can be used. These were not present on the tank cars in question.

Loose chain indicating handbrake is not applied

April 11, 2024: An RSD inspector and a UPRR inspector performed a hi-rail inspection between Rocklin and Colfax. Track speeds range from 25 to 40 MPH through this area. Passenger trains and freight trains carrying hazardous materials are transported on this line.

The inspectors identified a 12-inch portion of broken rail that was not in compliance with CFR 213.113(d)(16), Defective rails. This code covers internal rail defects that can surface and become visible by eye. If not identified and repaired, this could have led to a train derailment

The UPRR inspector supervised, and the RSD inspector observed, one train proceeding at low speed over the broken rail while waiting for a railroad maintenance of way (MOW) repair crew to change out the defective section of rail. This supervised action was in accordance with all relevant regulations. Crews arrived, made the repair, and restored the track to maximum authorized speed.

The inspector submitted a federal report to the railroad issuing a defect that documented the non-compliant condition.

12-inch portion of broken rail

Appendix D – Example of a Focused Inspection

July 24-28, 2023: Two RSD inspectors and an FRA inspector (team) performed a five-day focused inspection at the UPRR J.R. Davis Yard in Roseville.

The team inspected 609 freight cars which had already received a pre-departure safety inspection by UPRR, including an air brake test by a railroad mechanical inspector. The team discovered 184 non-compliant conditions on 153 cars. Non-compliant conditions were found under the following 49 CFR sections:

49 CFR section	Number of non-compliances
215, Freight Car Standards	40
232, Brake System Safety Standards for Freight and Other Non-Passenger Trains and Equipment	74
231, Railroad Safety Appliance Standards	70

38 freight cars were inspected that had been released from the rail car repair facility in the same rail yard and had been cleared by UPRR for use. The team discovered 18 non-compliant conditions on 13 cars. Non-compliances were found with the following 49 CFR sections:

49 CFR section	Number of non-compliances
215, Freight Car Standards	5
232, Brake System Safety Standards for Freight and Other Non-Passenger Trains and Equipment	5
231, Railroad Safety Appliance Standards	7
172, Hazardous Material Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Special Plans	1

A total of 21 freight locomotives were inspected. Some were assigned to outbound trains and others were being utilized in switching service in the yard. The inspectors discovered 41 noncompliant conditions on 19 locomotives. Noncompliance's were found with the following 49 CFR sections:

49 CFR section	Number of noncompliance's
229, Railroad Locomotive Safety Standards	29
232, Brake System Safety Standards for Freight and Other Non-Passenger Trains and Equipment	8
231, Railroad Safety Appliance Standards	4

The RSD inspectors also found the following General Order defects:

- One track had car parts in the walkway. This created tripping hazards for railroad employees working in the area and was out of compliance with GO 118-A, which provides standards for the construction, reconstruction, and maintenance of walkways adjacent to railroad tracks.

- Three locomotives without first-aid kits were discovered. This did not comply with GO 126, which states that each railroad corporation operating in the State of California shall provide and maintain, in a plainly designated accessible location on all passenger trains, cabooses, and locomotives used in railroad operations, a first-aid kit in a sanitary container with specified minimum contents.

The defective conditions were immediately reported to railroad managers. State and Federal inspection reports were submitted to the railroad with four civil penalties recommended. All defective equipment was removed from service for repair or was repaired in place prior to departure from the Roseville Yard. The inspectors verified that the hazardous walkway was fixed the following week by removing the car parts.

Two examples of noncompliance are shown in the following photographs:

In the first photo, the inspectors discovered a brake piston with excessive piston travel. The piston controls the amount of pressure applied by the brake shoe to the wheel to stop the train. Excessive piston travel usually indicates that the brake shoes are worn down and makes the brake ineffective. The piston expanded to 6 ⅛ inches, exceeding the maximum limit of 5 ½ inches for this type of car. 49 CFR 232.103(f)(2) requires that each car's air brakes be in effective operating condition. A car is not in effective operating condition if the piston travel limit on the stencil, sticker, or badge plate for the brake cylinder with which the car is equipped is exceeded. Reducing a train's ability to stop could cause an uncontrolled movement, leading to a derailment or collision.

In the second photo, the inspectors discovered a coupler drawbar that was too low. The drawbar was 29 ⅜ inches from the top of the rail. 49 CFR 231.31(a)(1) requires drawbars to be between 31

½ inches and 34 ½ inches from the top of the rail on standard gage railroads. A low coupler could cause rail cars to disconnect while a train is moving, potentially leading to a derailment.

Excessive piston travel found in braking system

Low coupler drawbar

Appendix E – Example of an Accident Investigation

January 16, 2024: A UPRR freight train derailed at approximately 12:30 a.m. in the UPRR Stockton Yard. The train was operated by a two-person crew and consisted of two locomotives and 93 rail cars. The train was traveling at approximately 10 mph when it experienced an emergency train air brake application, causing the train to stop. A train crew member walked back to determine the cause of the emergency stop and observed that six empty rail cars had derailed but remained upright. The train crew member then notified UPRR management.

The accident occurred on a yard track, and main track operations were not affected. No injuries to employees or hazardous material leaks were reported. All six derailed cars were damaged. The track and adjacent signal equipment also were damaged and temporarily put out of service.

RSD inspectors were notified by an Office of Emergency Services report on the day of the derailment. RSD inspectors visited the site, interviewed UPRR employees, inspected the track and train consist, relevant inspection records, and reviewed locomotive event recorder data. No regulatory non-compliances were noted by RSD inspectors. The investigation determined that a broken rail had caused the derailment. The rail break was due to an internal rail defect that was undetectable by eye.

The rail cars were cleared, and the broken rail and signal equipment repaired. The track was put back into service the following day. RSD track inspection staff conducted follow up inspections with railroad track inspectors to observe their inspection practices.

Broken rail where derailment occurred

Crews rerailing cars

Appendix F – Example of an Uncontrolled Train Movement

February 26, 2024: An uncontrolled movement occurred at the UPRR rail yard in City of Industry. 15 rail cars rolled approximately 50 feet until they stopped after the lead car went off the end of the track and derailed. The cars had previously been attached to 26 other cars stored on the track. The cars were loaded with ballast (rock/gravel) and track panels (a pre-assembled section of railway track) and did not contain hazardous materials. No injuries to crew and no damage to the rail cars, including the derailed car, occurred.

RSD inspectors responded the same day to interview UPRR personnel and inspect the equipment. RSD's investigation determined that the 41 cars had been placed on the track by a yard train crew approximately six months prior to the incident. The crew had applied handbrakes to the last two cars at the east end of the string of cars. The uncontrolled movement resulted from an unknown person or persons releasing a coupler between two cars by pulling up on a coupler release lever, allowing 15 of the cars not secured by the handbrakes to roll down the track, which had a slight slope.

The rail yard had previously experienced trespassers tampering with railroad equipment. There were no railroad employees working in the area when the incident occurred, and UPRR personnel believed that trespassers were responsible for this occurrence as well.

A homeless encampment was observed near the yard, and UPRR personnel said that occupants of a previous encampment at the same location had caused damage to locomotives stored on the same track. Therefore, it was considered possible that inhabitants of the new encampment were responsible for the incident.

RSD staff discussed security issues with railroad managers. It is often impractical or impossible to erect fencing or other means of preventive entry devices along railroad tracks that will repel trespassers and yet allow railroad operations to safely continue unhampered. The UPRR personnel at the scene related to RSD staff that the encampment was to be removed as soon as possible.

On February 28, 2024, an RSD inspector returned to the location and found that the encampment had been removed.

Separated cars

Lead car derailed after rolling off the end of the track

Appendix G – Example of RSD Response to Homeless Encampments

October 5, 2023: During an inspection of freight rail car equipment, two RSD inspectors observed a homeless encampment on UPRR property in the City of Industry. The encampment was near tracks and other structures on railroad property. Homeless individuals and dogs were observed roaming around the area. Miscellaneous debris, including human waste, was observed alongside and in the area where RSD staff were inspecting locomotives (units), and along other portions of tracks further away. Due to concern for their personal safety, RSD staff discontinued the inspection and rescheduled for another time.

RSD staff immediately notified UPRR of the unsafe conditions and informed them that a follow-up inspection would be conducted once the perceived risk was mitigated. RSD staff created a Risk Management Status Report (RMSR) addressing the safety concerns identified during the initial inspection.

On October 12, 2023, four RSD inspectors conducted a follow up inspection of units in the same area. The units had been vandalized. The units were missing electronic components, copper parts and wiring, batteries, and diesel fuel from the fuel tanks had been syphoned out. Various parts, trash, chairs, tarps, wood pallets, and miscellaneous items were scattered within the walkway by the vandalized units, creating unsafe conditions for railroad employees required to work on and/or operate these locomotives. The debris in the walkways were violation of CPUC General Order 118-A.

The inspectors also observed inhabitants of the encampment trespassing on and along the adjacent freight and passenger rail main line tracks close by.

The inspectors notified UPRR management of these conditions and provided a General Order Inspection report identifying the non-compliances with GO 118-A. After receipt of the report, UPRR management committed to moving the locomotives and removing the encampment and locomotive inhabitants and debris.

On October 25, 2023, RSD staff performed a re-inspection of the locomotives and surrounding area. Staff observed that the encampment inhabitants, tents and related debris had been removed, including the walkway obstructions. UPRR informed RSD that the locomotives had been moved to a safe location and that the trespassers had been removed by UPRR police with assistance from local law enforcement agencies.

Damaged locomotives and debris

Transients dismounted the locomotives when RSD staff were conducting an inspection

Before: Encampment and debris adjacent to UPRR tracks

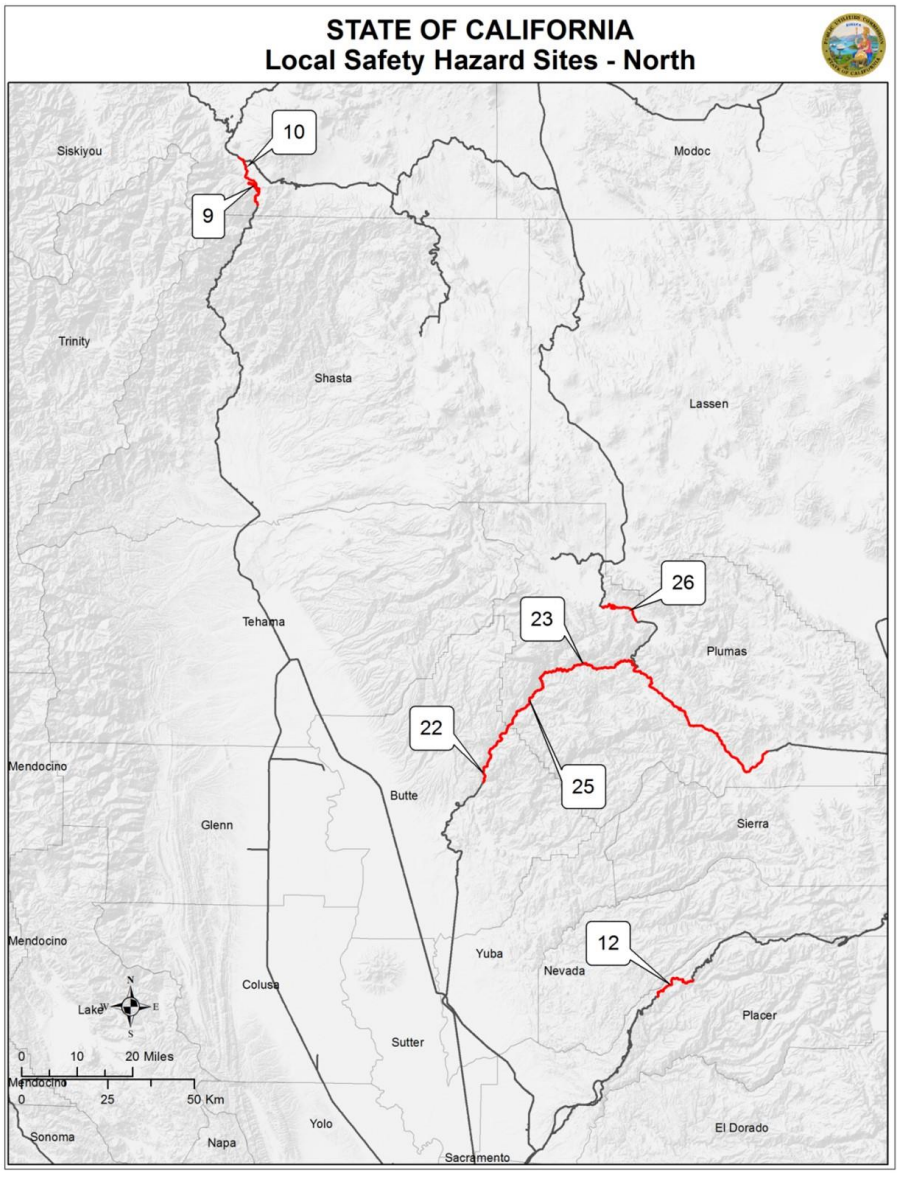
After: Encampment and debris removed from property

Before: Vandalized locomotives used for shelter by trespassers

After: Locomotives moved and debris cleared

Appendix H – Local Safety Hazard Site Maps

Local Safety Hazard Sites are shown below in three areas: 1) Northern California, 2) California Central Coast/Desert Valley, and 3) Southern California. The map numbers correspond to the list of Local Safety Hazard Sites presented in Chapter IV.




STATE OF CALIFORNIA
Local Safety Hazard Sites - Central
Inyo
San Benito
Fresno
Tulare
Kings
Monterey
San Luis Obispo
1
Kern
16
Santa Barbara
Ventura
Los Angeles
N
W
E
S
0 10 20 Miles
0 25 50 Km


STATE OF CALIFORNIA
Local Safety Hazard Sites - South
Kern
San Bernardino
Los Angeles
28
30
19
29
6
4
3
Riverside
Orange
San Diego
Imperial
31
N
W
E
S
0 10 20 Miles
0 25 50 Km

Appendix I - List of Abbreviations

ACE	Altamont Corridor Express
ATK	Amtrak
BNSF	BNSF Railway
CFR	Code of Federal Regulations
CHSRA	California High Speed Rail Authority
CORT	Crude Oil Reconnaissance Team
CPUC	California Public Utilities Commission
FRA	Federal Railroad Administration
GO	General Order
GOIN	General Order Notification Process
GOTP	General Order Training Program
HGAP	Heavy Grade Audit Project
HSR	High Speed Rail
LPG	Liquefied Petroleum Gas
LSHS	Local Safety Hazard Site
mph	Miles per hour
OES	Office of Emergency Services
OLI	Operation Lifesaver
PCMZ	Caltrain
PTC	Positive Train Control
Pub. Util. Code	California Public Utilities Code
RBEP	Railroad Bridge Evaluation Project

RHWP	Railroad Head Wear Project
RMSR	Risk Management Status Report
ROSB	Railroad Operations and Safety Branch
ROW	Right of Way
RSD	Rail Safety Division
RTEP	Railroad Tunnel Evaluation Project
SCAX	Metrolink
SDNX	North County Transit District
SMART	Sonoma-Marin Area Rail Transit
UPRR or UP	Union Pacific Railroad