Introduction to the CPUC
“Rail Academy”

Roger Clugston
Deputy Director, Office of Rail Safety
California Public Utilities Commission
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The Railroad Commission of California

- First Established in 1879, a three person panel, plainly called the Railroad Commission, comprised of Southern Pacific Railroad operatives. A “No Nothing” commission, newspapers sarcastically dubbed it the “SP Literary Club”, due to rampant corruption. No decisions against the railroad were ever passed.

- The SP Political Bureau controlled both political parties in California through the 19th Century. Reformists from non-railroad labor and management began to increase in the late 1890’s and early 1900’s.

- FELA was passed in 1908 to protect railroad employees.

- 39th Legislative Session of 1910 brought in a tough, new railroad regulation law in 1911. The California Railroad Commission (CRC) was genuinely established. Regulation began in earnest.

- In 1911, the CRC increased from three to five members; gas, electricity and other utilities were added to its regulatory oversight. 1912 brought in more utility oversight.

- The CRC became the PUC in 1946.

- A railroad safety oversight branch was then established within the PUC.
CPUC Regulatory Authority

Electricity    Telecommunications

Natural Gas    Water

Rail and Transportation

Office of Rail Safety
ORS Safety Concerns

- Public Safety along railroad and rail transit tracks
- Railroad and rail transit employee safety
- Trespassing
- Homeless encampments
- Unregulated safety conditions and risks
- Grade crossing - vehicle queueing
- Grade crossing maintenance
- Railroad & rail transit bridge conditions
- Tunnel conditions
- Looking beyond the regulations

Safety Solutions:
- Risk Management Status Reports (RMSR)
- Operation Lifesaver Presentations
- Increase railroad and rail transit surveillance and inspections

Three Branches

- Railroad Operations and Safety Branch
- Rail Transit Safety Branch
- Rail Crossings and Engineering Branch
- Specialty Staff
  - Positive Train Control
  - Rail Bridges & Tunnels
  - Crude Oil and Ethanol Trains
  - High Speed Rail
  - Risk Assessment
Railroad Operations and Safety Branch (ROSB)

Responsible for safety oversight of:

- Tracks and structures
- Operations
- Cars and locomotives
- Signals
- Hazardous materials

Rail Transit Safety Branch (RTSB)

Responsible for safety oversight of:

- Tracks and structures
- Operations
- Transit vehicles
- Signals
Rail Crossing and Engineering Branch (RCEB)

- Perform Safety Inspections and Accident Investigations
- Process new crossing applications
- Process GO 88-B applications to modify existing crossings
- Prioritize and recommend funding for Section 130 funds and Section 190 funds.
- Review and make recommendations on applications for Quiet Zones

As a Public Works Official...

Do you:
- Have an effective communication bridge with the railroad or rail transit system running through your town?
- Deal with more than one railroad or rail transit official?
- Have an emergency response plan with railroad or rail transit entity?

Have you:
- Ever used ENS numbers posted at grade crossings?
- Established an annual meeting with rail officials?
- Had no response from rail officials regarding questions or complaints?
Highway Rail Crossing Safety Issues

Problem Statement:
- Improving safety at railroad / rail transit grade crossings has challenges, one being to the need to coordinate rail crossing design and technological advancements with:
  - Highway / street design
  - Operating within constraints of stakeholder budgets
  - Obtaining cooperation among the various stakeholders.

Statistics for California Highway-Rail At-Grade Public Crossings:
- Highway-rail at-grade public crossings are the most deadly locations that the California Public Utilities Commission (CPUC) regulates.
- There were 114 vehicle-train accidents at California public highway-rail crossings in 2018, resulting in 8 deaths and 36 injuries.
- There were 60 pedestrian accidents at such crossings in 2018; resulting in 30 deaths and 24 injuries.
Why so many?

- Distractions
- Loss of situational awareness
- Obliviousness

May 2016 - Amtrak vs. farm truck in Madera, CA.
Photo Credit - ABC Channel 30 News – Fresno.

RCEB Role: Rail Crossings

- RCEB Mission: is to protect the public and rail employees by evaluating and recommending appropriate safety measures at rail crossings

- CPUC authorization is required for:
  - New at-grade and grade-separated rail crossings by filing an application with the Commission
  - Altering an existing rail crossing by filing a General Order 88-B application with the RCEB staff
RCEB Role: Rail Crossings

- RCEB reviews all rail crossing collisions and provides safety improvement recommendations
  - Crossing warning devices, markings, channelization, chain of events, need for crossing re-evaluation, etc.

- RCEB Manages Rail Crossing Improvement Funding Programs
  - At-Grade Highway-Rail Crossing Improvements under Title 23 – Federal Code Section 130 Program
  - CA Grade Separations Program under the Streets and Highways Code Section 190
  - Crossing Maintenance Program under Public Utilities Code Section 1231.1

RCEB Criteria

- Review rail crossing configuration and improve rail crossing safety
- Eliminate the rail crossing hazard through Crossing closure or grade separation
- Improve roadway design through Engineering: Roadway geometry, traffic control devices, pedestrian treatments, etc.
- Educate the public for rail crossing safety
Diagnostic Reviews

- RCEB participates in field diagnostic reviews of crossing and recommends safety modifications
  - Representatives of all parties participate
  - Roadway Agency, Railroad, Rail Transit Agency, and CPUC
- RCEB Evaluates conditions at crossing to make determinations or recommendations concerning safety needs and warning devices.
- RCEB can protest a rail crossing application with the Commission if safety is compromised

Railroad Crossings and Engineering Branch

- For more information visit the RCEB website at:
- http://www.cpuc.ca.gov/crossings/
Solutions: Signs?

Railroad Crossing Signs and Signals

Look for and obey all railroad crossing signs and signals

Advance warning signs — a round, yellow sign with a black "RR" tells you that a highway-rail crossing is ahead — be prepared to stop.

Pavement markings — when you see the "RR" painted on the pavement, be prepared to stop.

STOP signs at railroad crossings — the same laws apply here as for any other intersection regulated by a STOP sign. You must come to a complete stop. If no trains are coming, you may proceed.

Crossbucks are like yield signs — You must yield to trains.
- Slow down and be prepared to stop when you see the crossbuck sign.
- A sign below the crossbuck indicates the number of tracks.

Emergency Notification Sign

Find the BLUE and White to save your life.

[Image of an emergency notification sign]
Driver Responsibilities

It is the driver’s responsibility to take appropriate actions at a HRGC:

- **Always** approach a HRGC being prepared to stop.
- **Never** drive through flashing warning signals without stopping first.
- **Stop** 15 feet from track at the stop bar white line.
- **Never** go around lowered warning gates or under warning gates that are descending.
- **Look** both ways before proceeding.
- **Simple – right?**
What Stopping Behavior Is Safe?

Zone 1 (not dangerous): A motorist who stops in Zone 1 has stopped before the stop line where the gate descends during an activation. Motorists stopping in this zone are behaving safely.

Zone 2 (moderately dangerous): A motorist who stops in Zone 2 has stopped after the stop line, but before the dynamic envelope. Motorists stopping in Zone 2 would be stuck inside of a descended gate but not struck by a train.

Zone 3 – Dynamic Envelope Zone (very dangerous): A motorist who stops in Zone 3 has stopped in the most dangerous part of the crossing—the dynamic envelope zone. In this zone, a train and vehicle would collide.

Zone 4 (moderately dangerous): A motorist who stops in Zone 4 has stopped past but adjacent to the dynamic envelope zone. Motorists stopping in Zone 4 would not be struck by a train.

A Cost-Efficient Proposal for Safety: Integrated Pavement Markings and Signage Improvements for At-Grade Crossings

Railroad Crossing utilizing "Color-Safe® Pavement Marking for Dynamic Envelope Example: Commercial Blvd & Florida East Coast Railway (FECR), Ft Lauderdale, FL

*Photo property of Transpo Industries, Inc.
Operation Lifesaver

- Railroad tracks, trestles, yards and equipment are private property. Walking or playing on them is not only dangerous, it's illegal. Trespassers can be arrested and fined - the ultimate penalty is death

https://oli.org/
Thank you!
For Additional Information please contact me or visit our webpage:
http://www.cpuc.ca.gov/rail/

Roger Clugston
Deputy Director
Office of Rail Safety
Safety and Enforcement Division (SED)
California Public Utilities Commission
320 W 4th Street, Suite 500
Los Angeles, CA 90013
roger.clugston@cpuc.ca.gov
(213) 308-7698