Introduction to the CPUC
“Rail Academy”

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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.

Crossbuck signs 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.
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?

All improvements are costly
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/

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