Welcome to Caltrain
Roadway Worker Protection (RWP) Training
Job Briefing

- Evacuation Route
- Place of Safety
- Calling 911
- CPR/First Aid/AED
- First Aid and AED locations
- Fire Extinguisher locations
- Head Count
Agenda

- Introduction to Caltrain
- The Rules of the Railroad
- On-Track Protection
- Working in the Field
- Other Important Information
- Test
There will be a test of 15 questions.
You can only miss 2 questions.
Take notes, because you may use your notes during the test.
If you need special accommodations, please see the instructor privately during one of the breaks.
Ask Question at any time.
You are a Roadway Worker if you:
• Inspect
• Build
• Construct
• Maintain
• Repair
If you will be working within 15 feet of the tracks
Your equipment could shift and be within 15 feet of the tracks
Caltrain requires that anyone working on the Caltrain property must have roadway worker protection (RWP) training.
• RWP training expires and the class must be taken every year (annually).
You are responsible for ensuring that you have on-track safety.
What is Caltrain?

- **Owned by:** The Peninsula Corridor Joint Powers Board (JPB)
  - City and County of San Francisco
  - County of San Mateo
  - County of Santa Clara
- **Administered by:** San Mateo County Transit District (SamTrans)
- **Operated and Maintained by:** TransitAmerica Services, Inc. (TASI)
  - EIC, Watchman, Train Crew, etc.
The Caltrain System

- San Francisco to Gilroy
  - 52 miles of Caltrain owned track
  - 25 Mile of Union Pacific owned track
  - 32 Passenger Stations

- Caltrain corridor used by other trains:
  - Caltrain
  - Union Pacific Freight
  - ACE
  - Amtrak (Capitol Corridor and Coast Starlight)
The Purpose of This Training

1. Prevent workers from being struck by trains and on-track equipment.

2. Know the inherent danger of working near tracks.

3. Know your protection.
Main Goal

Don’t get hit by a train!  Don’t hit a train!
Expect a train at any time,
On any track and in either direction,
At any speed,
What looks like the back may actually be the front.

Locomotive can be either in the front (pull) or in the back (push). Trains in push mode are harder to hear.
Trains can travel at speeds up to **79 MPH** on Caltrain property.

Under ideal conditions, it can still take more than **1/2 mile** to stop a train.
What Do I Need to Know?

- You should expect a train at any time, on any track, in any direction, at any speed.
- You can’t always hear a train coming, especially if it is being pushed by the locomotive.
- You need on-track protection any time you or your equipment has the potential to be within 15 feet of the nearest rail.
- You are responsible for your safety!
Roadway Worker Responsibilities

- Wear your safety gear. (PPE)
- Attend Job Briefing.
- Know your on-track safety protection.
- Never foul the tracks except when authorized by TASI EIC / Watchman.
- Refuse any directive that violates the on-track safety rules. *Ask EIC questions when you don’t understand.*
You May Only Work On or Near the Caltrain Right of Way (ROW) when:

1. Your **RWP training is current**;
2. You have an **Approved Site Specific Work Plan (SSWP)**;
3. You have **On-Track Safety Protection and understand your protection**; and
4. You are wearing the required **RWP-PPE**.
Railroad Terms

- **Right of Way** – the land that is used for transportation purposes which includes the Caltrain’s rails, track, crossties, ballast, bridges, underpasses, tunnels, wayside signals, communication, overhead catenary system, and substation facilities adjacent to or extending into the track zone, and station areas in or adjacent to the track zone.

- **Grade Crossing** – anywhere another form of transportation legally crosses the railroad

- **Train** – any combination of locomotives and rail cars

- **On-track equipment** – any non-train equipment that operates on the tracks

- **Adjacent track** – a track next to another track
Railroad Terms – Workers

- Roadway Worker – any employee or contractor to a railroad that is working on the right of way (YOU!)
- Employee in Charge (EIC) – the TASI employee in charge of providing on-track safety to a work group
- Subgroup Coordinator (SGC) – the TASI employee who assists the EIC in large work groups that are spread out
- Watchman – the TASI employee in charge of providing warning to roadway workers on the tracks
Railroad Terms – Protection and On-Track Safety

- Protection – also known as On-Track Safety (OTS) – the way to make sure that everyone is safe from being hit by a train
- Positive Protection – a form of protection that prevents trains or on-track equipment from entering a track segment
Video: Train vs. Dump Truck

https://youtu.be/V9_wdLW4ST8
Reviewing Module One: Introduction

➢ Why are you taking this class?
  • Keep from being hit by a train
  • Know the danger of working near tracks
  • Understand your on-track protection
  • Required by federal law and by Caltrain

➢ What are the basics that you need to know?
  • Expect a train any time, on any track, in any direction, at any speed
  • Trains operate in push/pull mode
  • Need protection if working with 15 feet or if equipment has the potential to shift and become within 15 feet
Module Two: THE RULES
- Are a distraction
- Personal cell phones and electronic devices are **NEVER** allowed on the right of way, at all, ever!
- Electronic devices include Apple Watch and Fitbit and similar technologies.

- What if you need it for work?
- You can use it if it was company issued, and
- You are clear of the foul zone (i.e., need to be more than 15 feet from the nearest rail)
The Result of Distracted Railroading
Arriving to Work “Fit for Duty”

- Sober: On Caltrain property there is Zero Tolerance towards the use of Alcohol and Drugs that may affect your judgement, including prescription and some over the counter drugs.
- Well-rested, alert and attentive
- Trained for your job assignment (this includes any employer provided training)
To be qualified and be able to work on Caltrain Right of Way, each worker must attend and pass RWP Training annually.
Recommended Personal Protective Equipment

- Safety Glasses
  - ANSI Z87.1
- Hard Hat
- Orange Safety Vest
- Safety toe boots with defined heel

YOU WILL NOT BE ALLOWED TO BEGIN WORK WITHOUT THESE ITEMS!

RWP Training Rev 1, Nov 2016
Crossing Tracks - LOOK BOTH WAYS!!!

- Do not cross at switches – must be at least 25 feet
- Step over rail
- Not on rail
➢ Do not use metallic measuring tapes or drag other metallic objects across tracks.

➢ Park your vehicle as far from the tracks as possible and leave room for passing vehicles.
Do not direct traffic to and from your site in a way that would back traffic up to the tracks.

Report any traffic problems on the tracks to the EIC or Watchman.
Be aware of overhead power lines and signals when crane/boom are in use.
Heavy Equipment Near Overhead Lines

- Equipment operators must observe this table when working close to power lines.
- Always use non-conductive tag lines, power tools, etc. when near power lines.
- If the voltage is unknown, the minimum clearance is 45 feet.

<table>
<thead>
<tr>
<th>Power line voltage</th>
<th>Minimum Safe Clearance (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase to phase (kV)</td>
<td></td>
</tr>
<tr>
<td>50 or below</td>
<td>10</td>
</tr>
<tr>
<td>Above 200 to 350</td>
<td>20</td>
</tr>
<tr>
<td>Above 350 to 500</td>
<td>25</td>
</tr>
<tr>
<td>Above 500 to 750</td>
<td>35</td>
</tr>
<tr>
<td>Above 750 to 1,000</td>
<td>45</td>
</tr>
</tbody>
</table>
Maintain a **15 Foot** working distance around machines.
Video: Grade Crossing Accident

https://youtu.be/5OBXZsLBI6U?list=PLmDDxDd3ZOZFY_yw4tWajfm6v2ptjpYVJn
Reviewing Module Two: Rules of the Railroad

- What are some of the rules that we went over?
  - No cell phones
  - No drugs and alcohol
  - Overhead cranes and power lines
  - Don’t cross at switches or step on the rails

- What kind of PPE is needed?
  - Hard hat, orange vest, safety shoes, safety glasses

- What is the circle of safety around equipment?
  - 15 feet around any heavy equipment
Module Three: ON-TRACK PROTECTION
Main Tracks
- Almost all of Caltrain tracks, including stations
- Dispatcher gives **CONTROLS** who is on the tracks (trains and equipment)

Other than main tracks
- Trains and equipment can move without permission from the dispatcher/ **NON-CONTROLLED**
- Example of Other than Main locations on Caltrain
  - San Francisco (yard)
  - South San Francisco
  - Redwood Junction
  - Dumbarton
  - CEMOF
What is Protection?

- Protection is also known as On-Track Safety.
- On-track safety is the freedom from the danger of being hit by a train or other on-track equipment.
- It is your responsibility to know your protection if you are working within 15 feet of the nearest rail.

Place of Safety

In the “Foul” or “Fouling”
Anytime you will “foul” the track.

Foul = you are working within 15 feet of the nearest rail.

Anytime you have the potential to foul the track.

Equipment has a height or swinging radius that has the possibility of coming within 15 feet of the nearest rail.

Positive Protection is always needed if equipment is being used.
Any Roadway Worker must have on-track safety protection when working within 15 feet of nearest rail.
The Potential to Foul

Exists when you or something can hit or be hit by a train, especially if something goes wrong.

Example: This loader has the ability to swing into the “foul”. Therefore, the work on this machine MUST stop when trains are passing.
The only exception to protection and only when working with hand tools.
Protection = On-Track Safety

- 1. Train Approach Warning (TAW)
- 2. Form B
- 3. Form C
- 4. Track and Time (T&T)

Positive Protection
1. Train Approach Warning (TAW)

- Train Approach Warning is provided by a Watchman (always a TASI employee)
- The Watchman only warns workers of approaching trains.
  - The Watchman must give enough advance warning for you to be at your place of safety at least 15 seconds prior to the arrival of the train.
  - Watchman cannot be involved in any other task.
  - Warning can be an air horn, a whistle, a tap on the shoulder
- TAW can only be used for MINOR work and inspections only

NO EQUIPMENT!
Every worker who depends on TAW needs to be able to receive the warning.

Watchman will communicate the warning in a way that does not require workers to be looking in a particular direction and can be detected regardless of noise or distraction of work.
Positive Protection: a form of protection that prevents trains or on-track equipment from entering a track segment.

Positive Protection is MANDATORY when there is potential to foul with machinery or equipment.

- Form B
- Form C
- Track & Time
- Or a combination of the three above
2. Form B

- A train is not allowed to pass the red flags without permission from the EIC/Flagman
- All trains must stop at the limits until given permission from the EIC/Flagman to enter the area
- Used most frequently for major projects with work on or near the tracks
- Can use equipment off the tracks within Form B limits
3. Form C – Track Out of Service

- A train is prohibited to enter the track out of service area without permission from the EIC.
- Track is removed from service and identified by times, i.e. 9:30am-3:15pm. Track and Time is also requested as an extra precaution.
- Trains may “single track” on the other main track.
- The remaining track in-service will be protected with a Form B or Track and Time or both.
- Can use equipment off the tracks within Form B limits
4. Track & Time

- The dispatcher gives an EIC/Flagman a specific amount of time to work between two Control Points.
- Trains cannot enter the work zone during this time.
- Used mainly for short durations.
- Can use machinery or equipment.

A train cannot pass the signals until the work group has cleared the track.
<table>
<thead>
<tr>
<th>Type of Protection</th>
<th>Positive Protection?</th>
<th>Use of Equipment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train Approach Warning (TAW)</td>
<td>Not Positive Protection</td>
<td>No Equipment</td>
</tr>
<tr>
<td>Form B</td>
<td>Positive Protection</td>
<td>Yes Equipment</td>
</tr>
<tr>
<td>Form C</td>
<td>Positive Protection</td>
<td>Yes Equipment</td>
</tr>
<tr>
<td>Track and Time (T&amp;T)</td>
<td>Positive Protection</td>
<td>Yes Equipment</td>
</tr>
</tbody>
</table>
Adjacent controlled tracks are controlled by the dispatcher and have 19 foot track centers or less.

- Only used with On-Track Equipment and Work Crews.
- When working with adjacent controlled tracks, the EIC will establish on-track safety on the adjacent tracks as well as the track being worked on.
Operators of on-track equipment working on adjacent controlled tracks will have a sign reading “Danger – Live Track” across the entrance/exit on the live track side of their machines.

This includes using a removable sticker on hyrail vehicles.

Do not operate on-track equipment while a train is passing on the adjacent track:

- Stop the equipment
- Secure the equipment against movement
- Observe the passing train for hazards
Working on the Ground with Adjacent Controlled Track

- Any on-ground workers who are within 25 feet of any on-track, self-propelled equipment, or coupled equipment permitted to move on the occupied track also fall under the Adjacent Controlled Track rules.
- Your EIC will tell you what your protection is.
Protection for Non-Controlled Tracks

- Cannot use any of the previously mentioned types of protection.
- Only a few areas on Caltrain where this applies.
- Several ways to provide protection:
  - Flagman able to stop all trains and equipment from entering the work zone.
  - A manual or controlled switch or derail lined to prevent access to the track.
  - Remove section of rail.
Video: Train vs. Excavator

https://youtu.be/AvyiC4IjdQ4
What is protection?
- On-Track Safety
- Freedom from being hit by a train

What are the type of protection?
- TAW, Form B, Form C and Track and Time

Which is not a form of positive protection?
- Train Approach Warning (TAW)

Who will tell you what your form of protection is?
- EIC or Watchman

Can you use equipment with TAW? With Track and Time?
- No equipment with TAW
- Yes equipment with Track and Time
Module Four: Working in the Field
People in the Field

- **Employee in Charge (EIC)**
  - A qualified employee who is assigned the duty of being responsible for the protection and direction of his/her self and/or co-workers in any engineering work activity.

- **Subgroup Coordinator (SGC)**
  - Assists the EIC when the work area is very spread out.

- **Watchman**
  - Used during Train Approach Warning (TAW)

- **Advanced Watchman**
  - Extends the “view” of watchman.
Always a TASI employee

Provides Protection (On-Track Safety)

Communicates with Train Engineer and Dispatch to authorize trains to enter Work Zone Limits.

Establish Protection Limits and Work Zone Limits.

Everyone in the work group is wearing (PPE) Hard Hat, Safety Glasses, Safety Vest, and Safety Boots;

Provides job briefing prior to start of any work that requires track protection.
Job Briefing

- Occurs at the beginning of the shift or whenever work conditions change.

- Work conditions that can change:
  - New people on the work site
  - New EIC or watchman on the work site
  - A change in the type of work – use of hand tools to the use of heavy equipment
  - A change in the location of the work – from beside the track to on to the track
  - When protection changes or is released

- A job briefing is complete only when each roadway worker has acknowledged understanding of the on-track safety procedures and instructions.
The Employee in Charge (EIC) will conduct the job briefing

The EIC will be a TASI employee and must have an EIC qualification card

Discuss your work with the EIC

Identify the On-Track Safety Protection

Identify the Warning to be used

Identify the Designated Area of Safety
Contractors are **required** to have their own job safety briefings on a daily basis and document those briefings. TASI will give a briefing which includes the type of On-Track protection in effect.

- Contractor briefings should include the following:
  - Tasks to be accomplished;
  - Discuss potential hazards;
  - Determine tool, equipment, material needs and applicable safety rules and procedures;
  - Establish the 15 foot Circle of Safety around mobile construction equipment and tool operations.
<table>
<thead>
<tr>
<th>Date:</th>
<th><em><strong>/</strong></em>/______</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>__________________________</td>
</tr>
<tr>
<td>EIC:</td>
<td>__________________________</td>
</tr>
<tr>
<td>Watchman:</td>
<td>__________________________</td>
</tr>
<tr>
<td>Type of OTS:</td>
<td>□ Form B □ Form C □ TAW</td>
</tr>
<tr>
<td>Permit #:</td>
<td>□ Track &amp; Time □ Foul Time</td>
</tr>
<tr>
<td>Track(s):</td>
<td>□ MT1 □ MT2 □ Other</td>
</tr>
<tr>
<td>Protection Limits:</td>
<td>From: __________________________</td>
</tr>
<tr>
<td></td>
<td>To: __________________________</td>
</tr>
<tr>
<td>Time:</td>
<td>From: __________________________</td>
</tr>
<tr>
<td></td>
<td>To: __________________________</td>
</tr>
<tr>
<td>Work Zone:</td>
<td>From: __________________________</td>
</tr>
<tr>
<td></td>
<td>To: __________________________</td>
</tr>
<tr>
<td>Discussed Working Around M of W Equipment:</td>
<td>□ Yes □ N/A</td>
</tr>
<tr>
<td>Rule of the Day:</td>
<td>__________________________</td>
</tr>
<tr>
<td>Notes:</td>
<td>__________________________</td>
</tr>
</tbody>
</table>
➢ Stop work and Clear to the predetermined place of safety discussed in the Job Briefing.

➢ The Watchman will point the white disk up warning you to clear track.

➢ The warning given by a Watchman must be heard, seen, &/or felt (whistle, air horn, or tap on shoulder).
- OK to go back to work.

- The Watchman will point the white disk at the tracks to signify all clear, return to work.
When working close to tracks with equipment:
- Stop all movements.
- Dismount the machine/equipment when practical.

When working close to the tracks NOT with equipment:
- Clear the “foul” of the track to the pre-designated area of safety.
- Acknowledge approaching train by facing the train and raising your hand.

Wait until the last car of the train has passed and you receive an “all clear” signal.
- It is important to wait for an “all clear” signal because another train might be coming.

All workers in equipment and around the job site should face the train to watch for flying debris.
1. On-Track Safety: When you believe the On-Track Protection provided is insufficient

2. On-Track Equipment: When you believe the equipment does not comply with FRA regulations or has a condition that inhibits its safe operation.

An individual that files a Good Faith Challenge must not be forced to do the task until the issue is resolved. However, the individual may continue to work on tasks not related to the challenge.

Any worker may file a right to challenge “in good faith” without retaliation or retribution from their employer or Caltrain.
On-Track Safety Rules

CALTRAIN ON-TRACK PROTECTION / RMM SAFETY GOOD FAITH CHALLENGE FORM

Employee Name: __________________________ Position: __________________________ Date: __________________________

Employer: __________________________

Type of Equipment: __________________________

Equipment Number: __________________________

Work Location: __________________________ Track #: __________________________ Mile Post: __________________________

OTS procedure applied or lacking at work locations / RMM Equipment Safety Issue

Caltrain’s Safety/CCOR not being complied with, give Rule # if known:

Reason for Challenge: __________________________

Employee’s Signature: __________________________ Date: __________________________

Determination by EIC: __________________________

EIC Signature: __________________________ Date: __________________________

Determination by Employee’s Supervisor: __________________________

Employee’s Supervisor’s Signature: __________________________ Date: __________________________

INSTRUCTIONS: READ the Caltrain ROADWAY WORKER PROTECTION GOOD FAITH CHALLENGE AND DISPUTE RESOLUTION PROCEDURE IN THE OTS MANUAL. The employee making challenge shall complete this form, sign and date it, and give it to the EIC who shall document his/her determination, sign and date it, and give it to the employee’s supervisor who shall document his/her determination, sign and date it, and forward it to the Caltrain Safety Officer or his/her designee. If immediate resolution cannot be reached, the EIC must contact the San Jose Control Center who will contact the Caltrain Safety Officer or his/her designee.
Digging on Caltrain Property

- Underground Service Alert (USA Dig Alert) must be notified prior to ANY digging on Caltrain property
- In addition to notifying USA Dig Alert, Communication and Signals department at TASI will need to be notified.
Heavy Equipment Best Practices

- Prevent unauthorized access to worksite.
  - Always secure gates and entry points into construction zones if applicable
  - Lock and secure construction vehicles both during and after shift. WHY?

- Encourage operators of heavy equipment and construction vehicles to:
  - Move equipment only after positive visual contact (seeing each others eyes) has been made and confirmed with workers on the ground.
  - Always observe jobsite stop signs and speed limits and reduce speed when workers are nearby
Activity – Filling out a Job Briefing Form
How many job briefings should you attend?
- At least two, one with the TASI EIC and one with the Contractor.

When do job briefings need to be held?
- Any time conditions change.
- At the beginning of the day.
- When there is a change in EIC.

What can you challenge?
- On-Track Safety.
- On-Track Equipment Safety.

What should you do as a train passes you?
- Face the train, Acknowledge train, Watch for flying debris.
Emergencies

- Always notify the EIC about the emergency
- The violent movement of arms will be taken as an indication by train Engineers to stop
- To stop trains in an emergency 800-872-4660
- Police, Fire, Medical emergency 877-723-7245
- Emergency Telephone Numbers are printed on your RWP ID Card
Security for Caltrain is provided by:

San Mateo County Sheriff's Office

Transit Division
RWP Enforcement

- Enforcement Done By:
  - FRA (Federal Railroad Administration)
  - CPUC (California Public Utilities Commission)
  - TASI and Caltrain Staff

- You will be asked:
  - Who your EIC is.
  - What your working limits are.
  - What type of protection you have, (time limits, what track if multiple, track speed, place of safety, method of warning, etc.)

- Failure May Result in
  - Ejection from the Property
  - Work Stoppage
  - Personal Fines
  - Employer Fines
Compliance with the On-Track Safety Rules

- TASI safety assessment teams, safety and rules personnel, project representatives WILL conduct unannounced and unscheduled assessments.
- On-site contractor and JPB Project Managers will be notified of assessment findings.
https://youtu.be/Ss8RdZLPcvs?list=PLmDDxd3ZOZFy_yw4tWaJfm6v2ptjpYVJn
Reviewing Module Five:
Other Important Information

- How do you handle emergencies?
  - Notify EIC
  - Wave hands violently to stop the train

- Who enforces RWP rules?
  - Caltrain (JPB/TASI), FRA, CPUC

- Can you be personally fined for violating RWP rules?
  - Yes

- Can your company be fined for your actions?
  - Yes