# Anzur Logistics LLC

**David Anzur** – Owner – Anzur Logistics LLC

- 24-years railroad experience
  - 10 years – transportation consultant, transload, rail operations
  - 14 years at Portland & Western Railroad in various roles including director of marketing & sales, director of finance & accounting, and other operating roles.
- M.B.A. with honors, Willamette University, 2008
- B.S. Business and Economics, University of Oregon, 2000

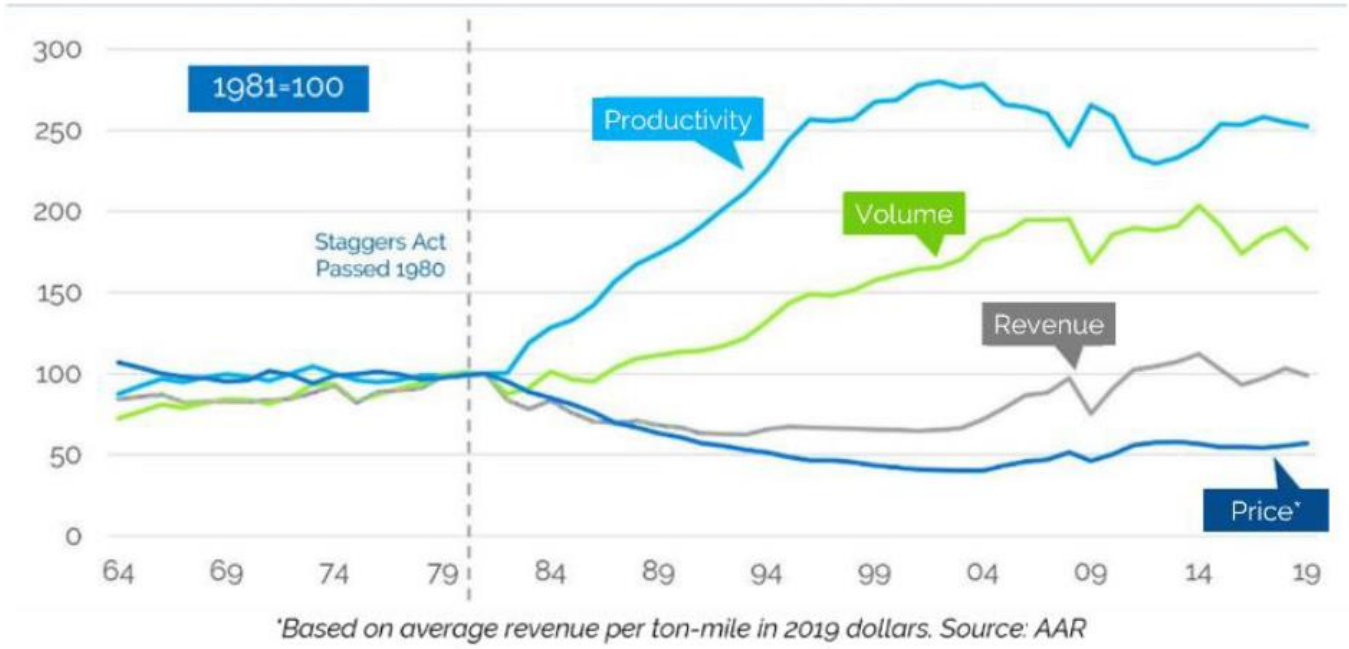
# Brief Railroad History in the U.S.

*US: Nearly all private* *World: mostly Government owned/controlled*

1830: First intercity railroad — the 13-mile B&O
1869: Transcontinental Railroad
1887: Interstate Commerce Commission (ICC)
1916: 254k miles and employ 1.8 million
1937: 1/3 of railroads are in receivership
1940s-1950s: WW2 Boom
1960s: Many railroads are bankrupt
1970: Amtrak and Con-Rail, freight deteriorates

**1980: Congress passes Staggers Rail Act – aka Deregulation**

Since Deregulation: Growth, investment, consolidation (33 Class I RRs to **6** today) and short line spinoffs.




*Based on average revenue per ton-mile in 2019 dollars. Source: AAR


Source: AAR

# Regulatory

**SAFETY**

U.S. Department of Transportation
Federal Railroad Administration

PHMSA
U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Oregon Department of Transportation

**COMPETITION**
Rate/Mergers/Abandonment

SURFACE TRANSPORTATION BOARD ★ 1996 ★

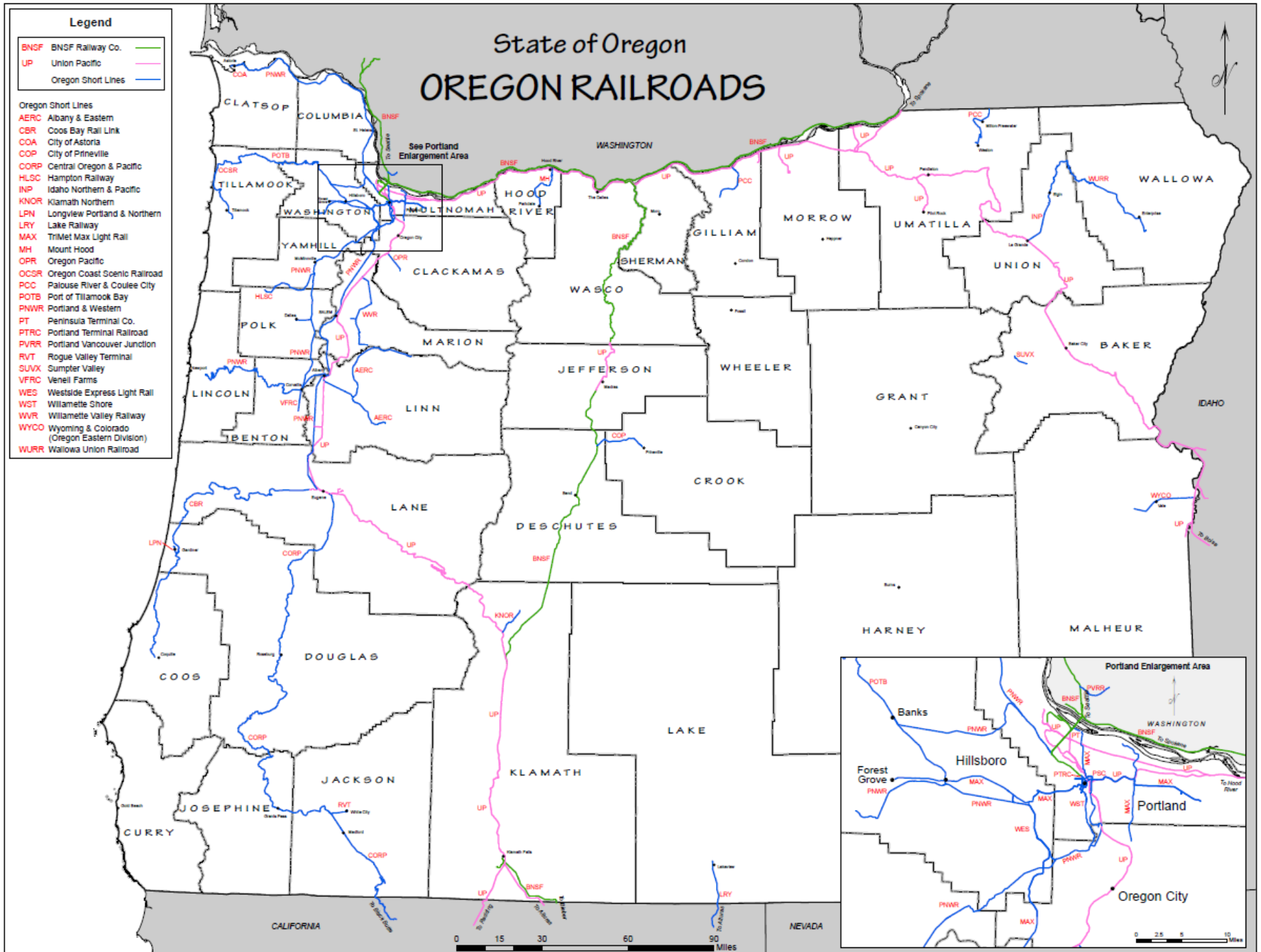
*Replaced the ICC*

**AAR(non-government)**
Interchange/ common standards

ASSOCIATION OF AMERICAN RAILROADS

**Major Incidents**

NATIONAL TRANSPORTATION SAFETY BOARD




Oregon currently has 2,377 route miles of track and 23 federally franchised freight railroads.

## More than 80% of U.S. communities rely exclusively on trucks for their freight transportation needs.

**88% of Oregon's manufactured tonnage is transported by trucks equaling 101,140 tons per day**

**There are close to 9000 trucking companies located in Oregon, primarily small, locally owned businesses**

**One in 17jobs in Oregon are trucking industry jobs, making Oregon one of 29 where truck driver is the number one job**

***-Slide from "Trucking & the Supply Chain November 2021 – Presented by Jana Jarvis, OTA President & CEO***

# Evolution of the Boxcar *(and most railcars)*






*Lading Weight*

1870s
10-20 Ton

1930-1950
50 Ton

1960-1975
70 Ton

1975-1980
100 Ton

1990s-Today
110 Ton

**Issues:**

- Replacement Rate
  - <1974: 40 Year Life *+10yr extension*
  - >1975: 50 Year Life
- 286k restrictions on short Lines
- Next 315k cars

**The 286k Railcar**

- 286,000 Pound Gross Vehicle Weight
- 110 Ton Lading
- New Standard
- 4:1 Truck Ratio (13'H, 50' or 60' L, 9.5' W)

**FRA Track Safety Standards**
CFR 49 Part 213

*Wait- What? Confusing Classes:*

- ***FRA*** *Track Classification: Class 1-9*
- ***STB*** *Railroad Class I, II, III based on Revenue*

| | Class of Track | Max speed MPH freight trains | Max speed MPH for passenger trains |
|---|---|---|---|
| Most Short Lines | Excepted track | 10 *(max of 5 hazmat cars/train)* | N/A |
| | Class 1 track | 10 | 15 |
| | Class 2 track | 25 | 30 |
| Class I & Amtrak | Class 3 track | 40 | 60 |
| | Class 4 track | 60 | 80 |
| | Class 5 track | 80 | 90 |
| High-Speed Rail → | Class 6-9 track | | 110, 125, 160, 220 |

**Track Safety Standards**
CFR 49 Part 213

## § 213.4 Excepted track.

A track owner may designate a segment of track as excepted track provided that—
(a) The segment is identified in the timetable, special instructions, general order, or other appropriate records which are available for inspection during regular business hours;
(b) The identified segment is not located within 30 feet of an adjacent track which can be subjected to simultaneous use at speeds in excess of 10 miles per hour;
(c) The identified segment is inspected in accordance with 213.233(c) and 213.235 at the frequency specified for Class 1 track;
(d) The identified segment of track is not located on a bridge including the track approaching the **bridge for 100 feet on either side**, or located on **a public street or highway**, if railroad cars containing commodities required to be placarded **by the Hazardous Materials Regulations** (49 CFR part 172), are moved over the track; and
(e) The railroad conducts operations on the identified segment under the following conditions:

(1) No train shall be operated at speeds in excess of **10 miles per hour**;

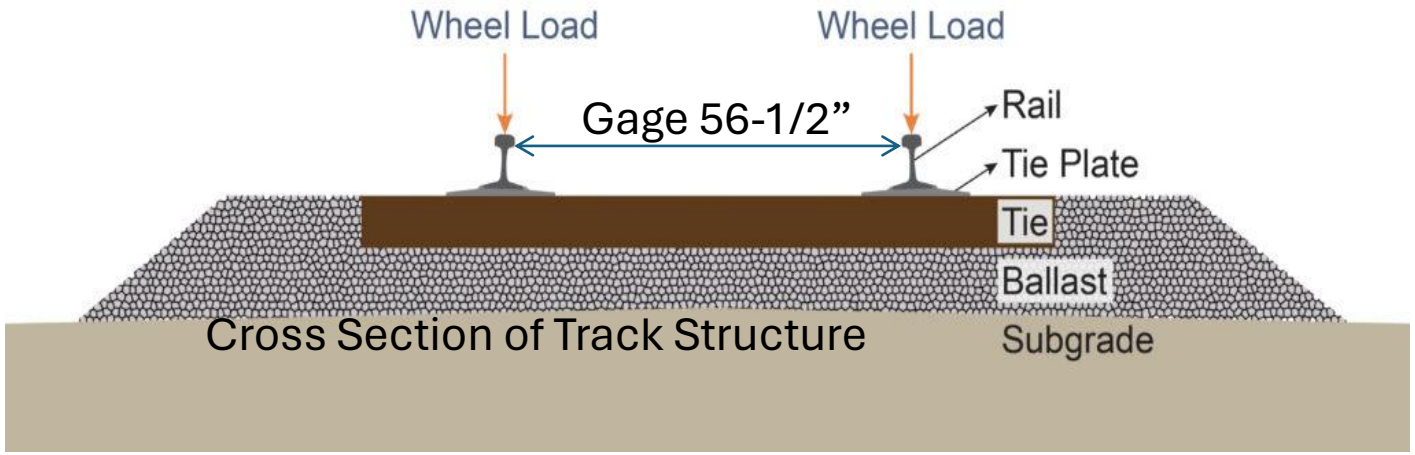
(2) **No occupied passenger** train shall be operated;

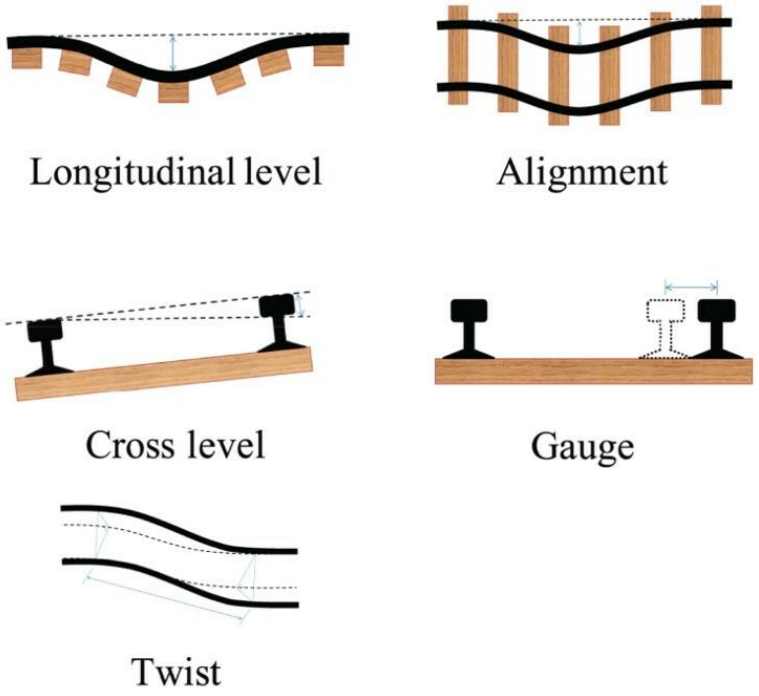
(3) No freight train shall be operated that contains **more than five cars** required to be placarded by the **Hazardous Materials Regulations** (49 CFR part 172); and

(4) The gage on excepted track shall not be more than 4 feet 10-1⁄4 inches. This paragraph (e)(4) is applicable September 21, 1999.

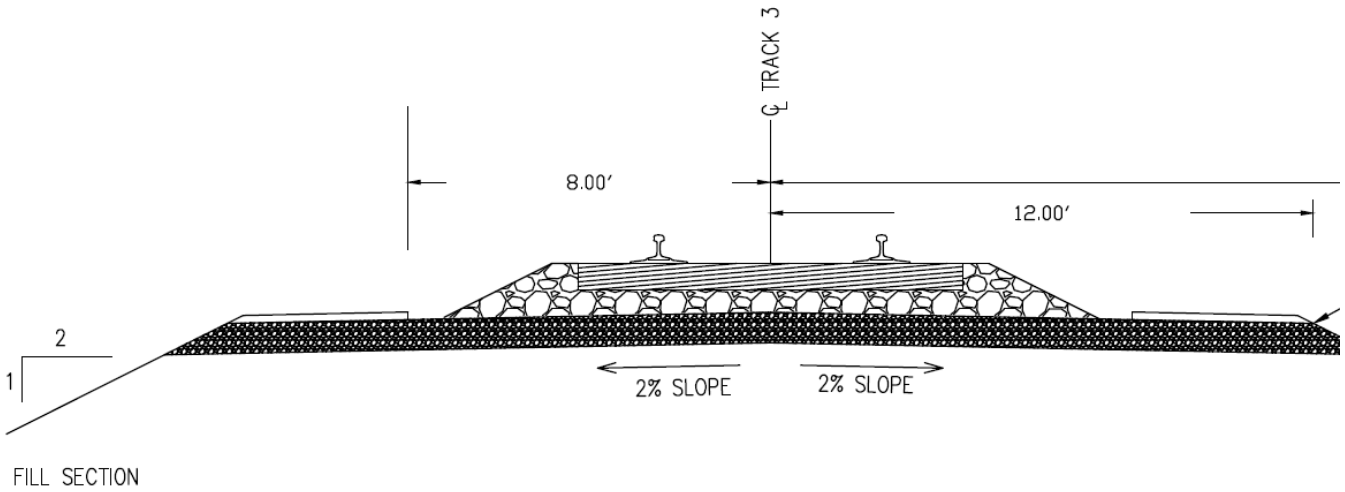
(f) A track owner shall advise the **appropriate FRA Regional Office at least 10 days prior to removal** of a segment of track from excepted status.

# Track Structure




(b) Track irregularities.



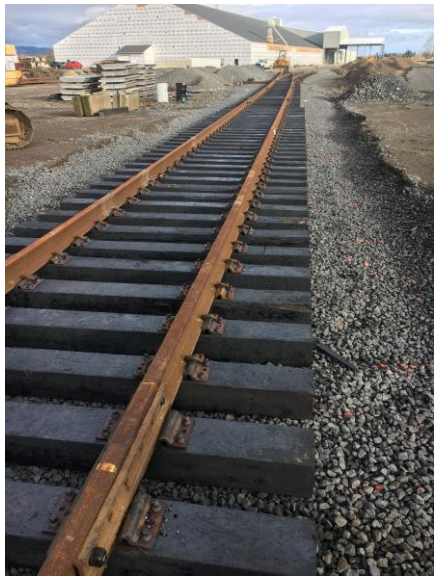

# Cross Ties

## Wood Tie

Common 7”x9” x8.5’
Oak, Doug Fir, other

- Standard Tried & True
- Dynamic/Flex
- Sturdy
- OTM – spike, plate, anchor
- 18-19” centers
  - (3200/mile)

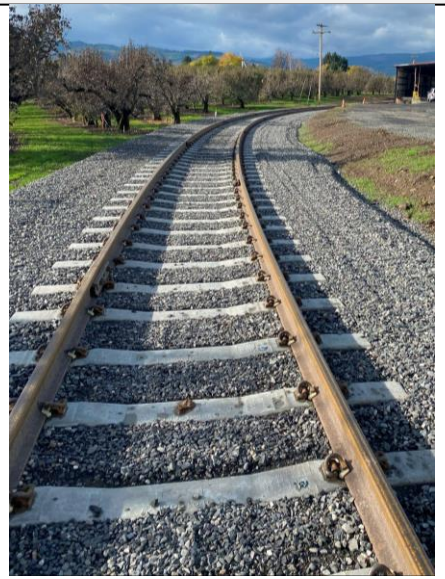
Most Common



## Concrete Tie

- Static/Rigid
  - Can’t mix
- Requires clean ballast
- Long Lasting brittle
- OTM e-clips
- 20-24” (28”) centers
  - 2600/mile

More Common for
new construction
High GTM lines



## Composite

Common 7”x9” x8.5’
Recycled Plastic

- Dynamic/Flex
- Longevity?
- OTM – spike, plate, anchor
- 18-19” centers
  - (3200/mile)

Not Common
Past issues with temperature

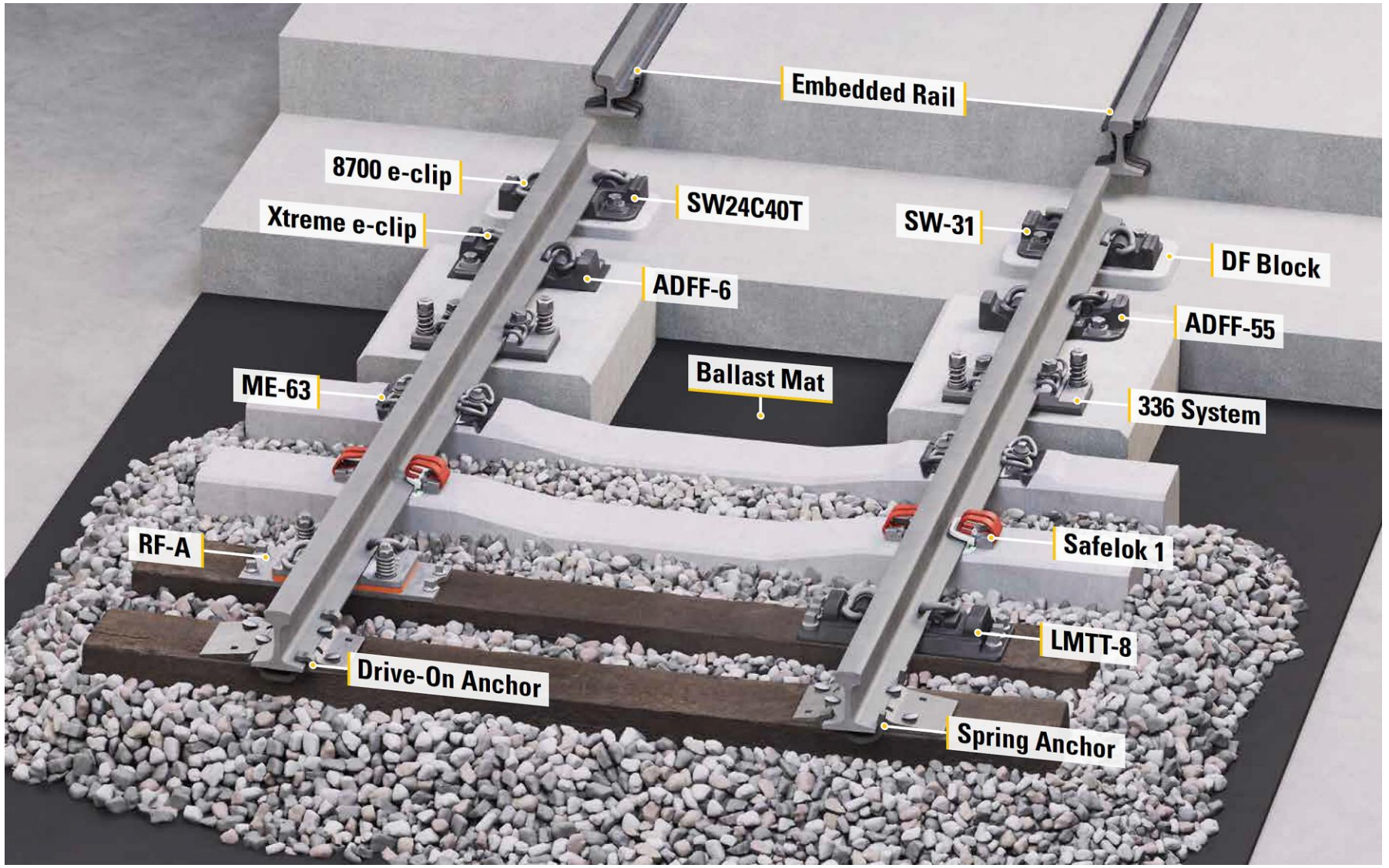
## Steel

Solid Steel hollow core

- Static/Rigid
  - Can mix
- Requires clean ballast
- Long Lasting
- OTM e-clips
- Conductor/Shunting

Sharp curves or tunnels

# Track Structure Technology Changes



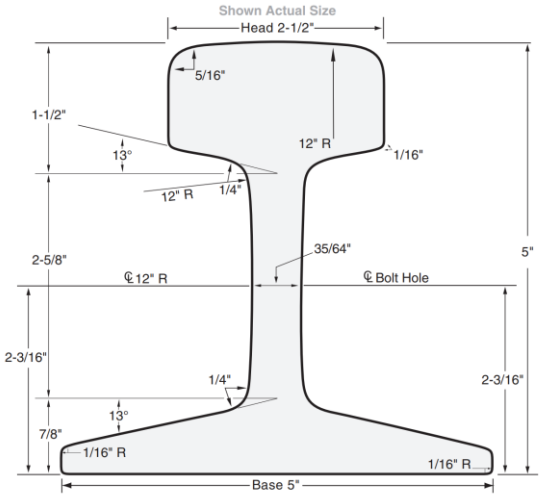
# Rail Size

## pounds per yard



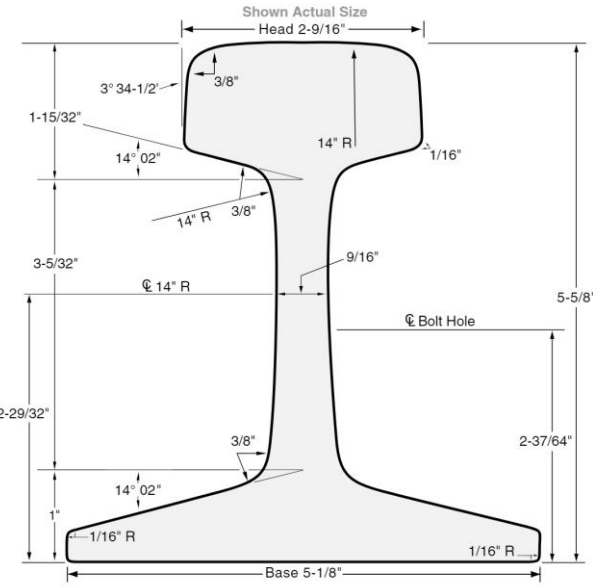
### 80-pound

*~1880-1920*




### 90-pound

*~1890-1930*





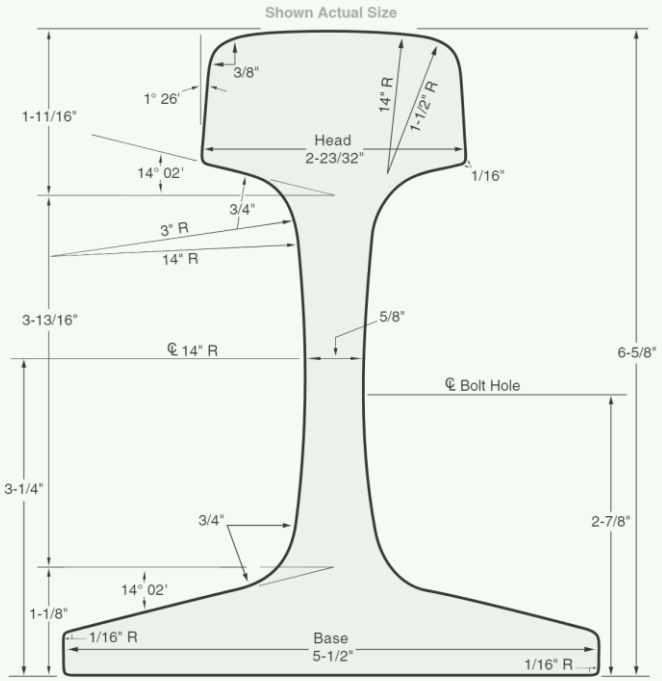
### 115-pound

*~1930-1970+*

Branch/Siding/Yard

*~1970-Present*

Other 5-1/2" base variants:
110, 112, 113, 119

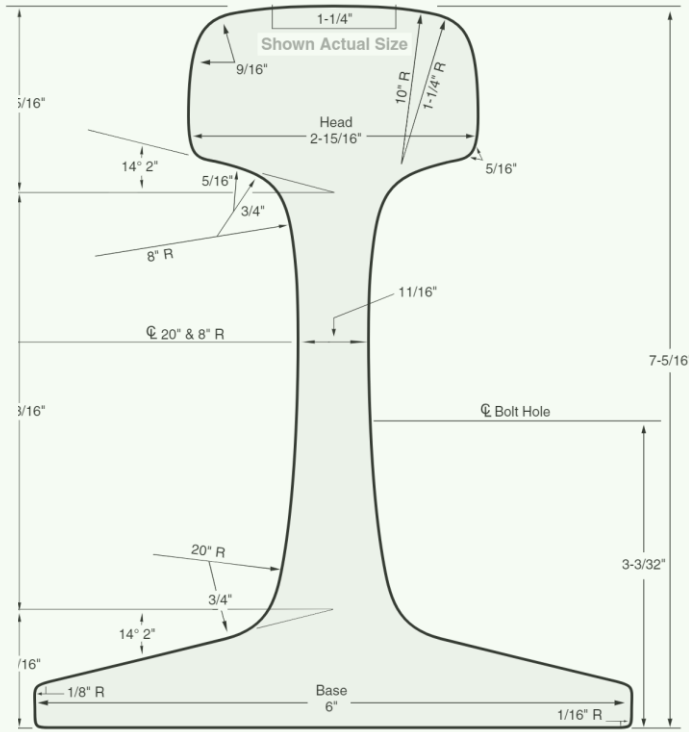



Ideal size but high
demand low supply

### 136-pound

*~1950-present*

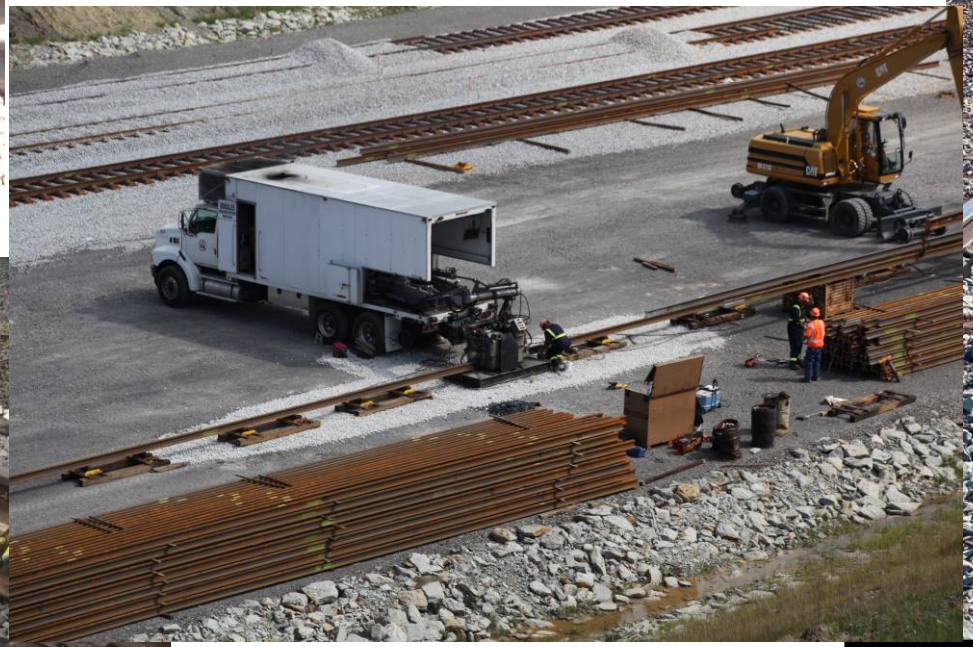
Other 6" base variants:
130, 132 ,133, 136, 141

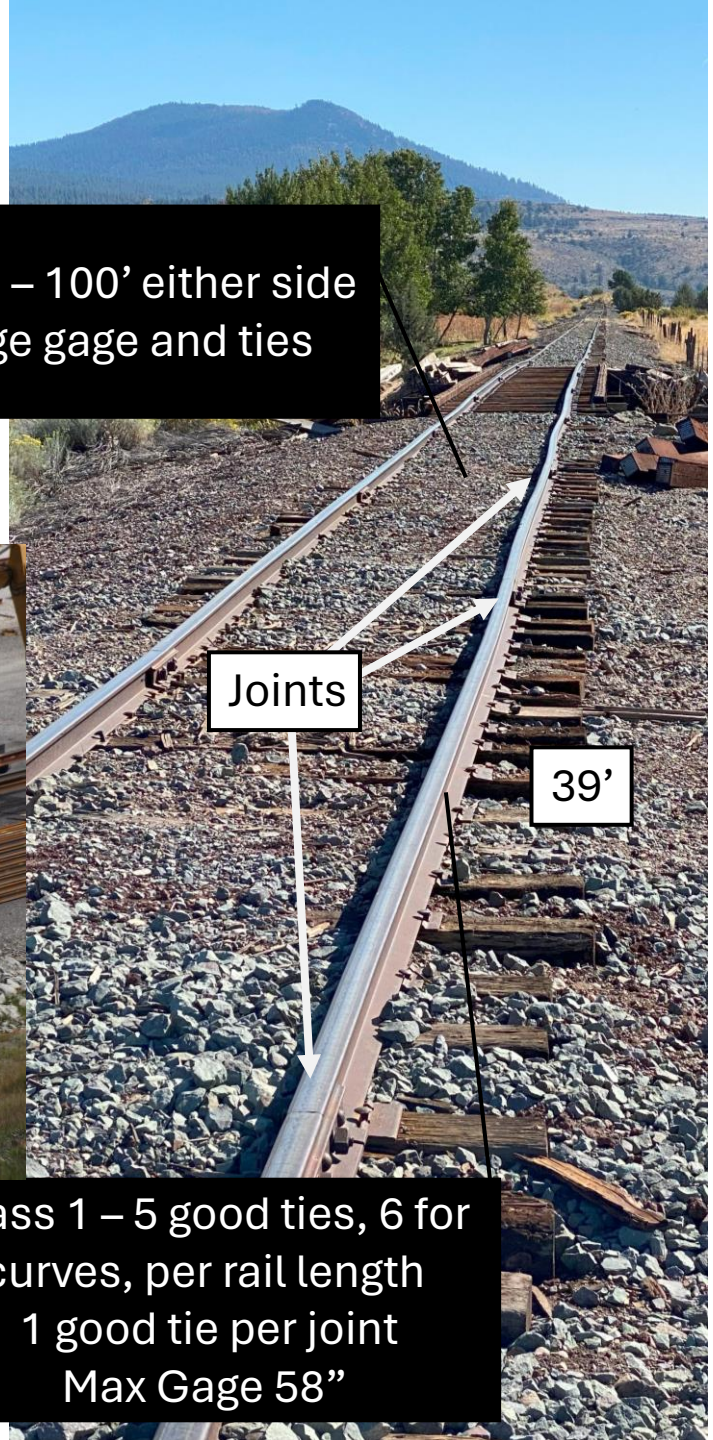



239 tons per mile
$800-$1,000/ton used
$1,500/ton new IQ

# Excepted to Class 1 and Class 2

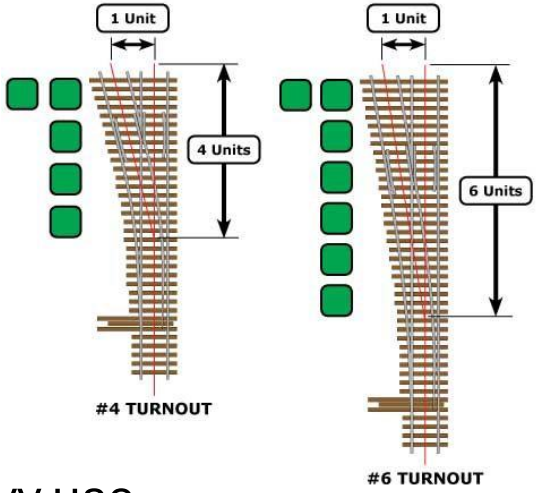
- Jointed/Bolted Rail
- Weld Thermite vs Flash Butt
- Continuous Welded Rail (CWR)





# Switches/Turnouts

Standards are set by individual railroad.




**Dark Territory - Track Class 3 and lower.**
Most RRs require No. 11 on main
No. 9 can be used internal turnouts
$100k to $200k

**Track Class 4 or higher**
Min No. 11 Some high speed heavy use corridors require siding with larger turnout
Costs $200k- $700k + Signal ~$2 million

# Railroad Upgrade for 286k

- Ballast Deck Bridges
- Open Deck Bridges
- Through Truss
- Concrete