

MaineDOT

Integrity Competence Service

Bridge College 101

- Why
- What
- Who
- How

Why Bridge College

- Past administrations would only exempt snow fighters from hiring freeze
- Bridge Worker + Highway Worker = Transportation Worker
- Smaller, more versatile merit based workforce
- Deep reduction in bridge expertise
- Much of the remaining expertise absorbed into non-bridge activities
- Non-bridge supervisors cautious about bridge work

Why Bridge College



Work was not getting done!

What is Bridge College

- A 2 day forum to educate transportation workers, supervisors and higher level managers and administrators the basics of bridges and bridge maintenance.

Bridge College Faculty

- Bridge Maintenance Engineer
- Asst. Bridge Maintenance Engineer
- Superintendent of Bridge Operations
- 3 Region Bridge Managers
- 1 Region Engineer
- 1 Crew Supervisor

3 General Sessions (Entire Class)

Nomenclature & Anatomy

Scour

Wrap-up

6 Break out sessions (10-12/session)

Bridge Preservation Techniques

Bearings & Beam Ends

Reinforcing Steel

Wearing Surface & Deck Maintenance

Bridge Rail

Bridge Joints

Taught in each of the 5 Regions with 70-80
Participants per Region.

Day 1

General Session 1 – Nomenclature & Anatomy
3 Breakout Sessions

Day 2

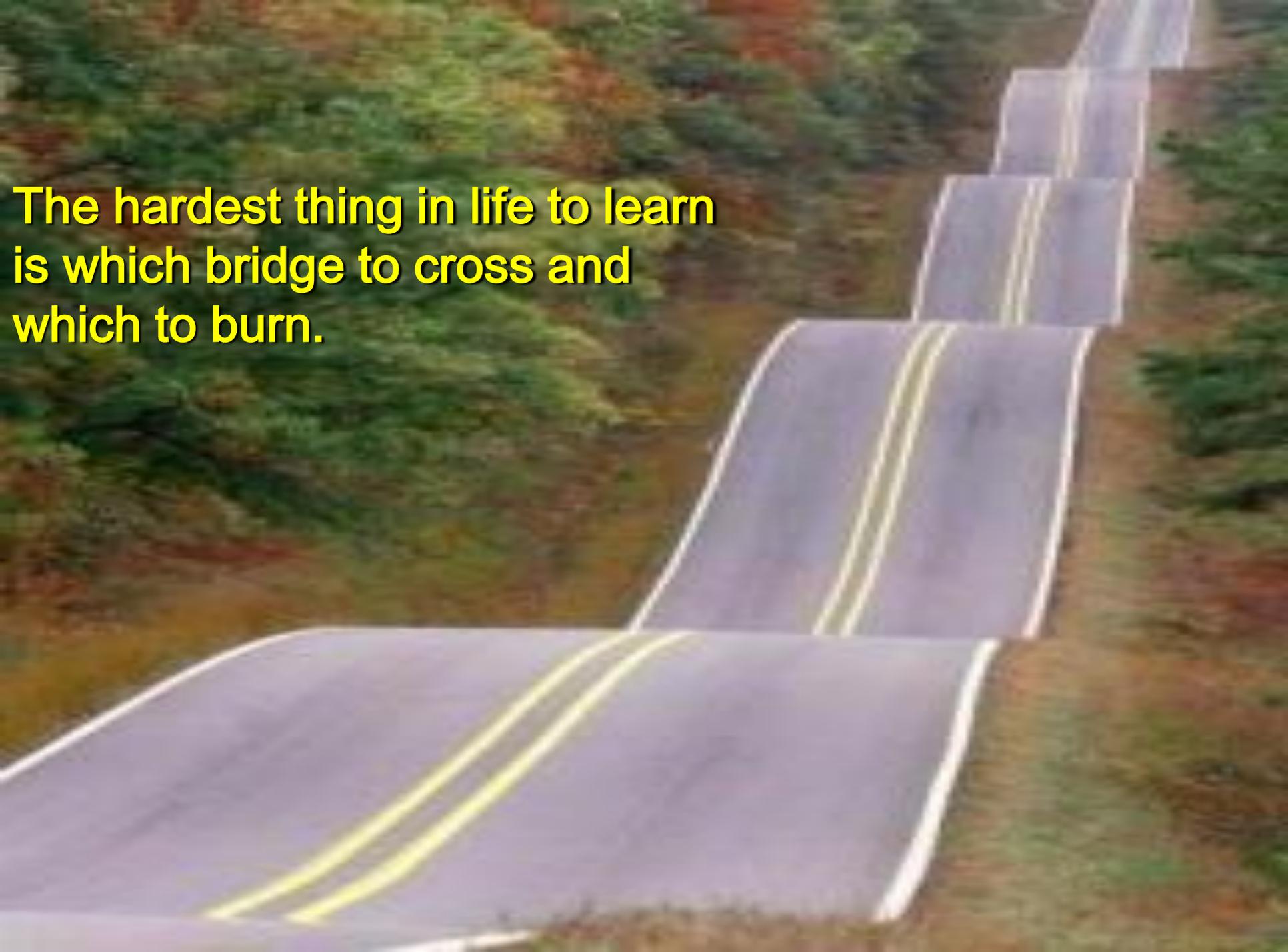
General Session 2 - Scour
3 Breakout Sessions
General Session 3 - Wrap-up

Overview

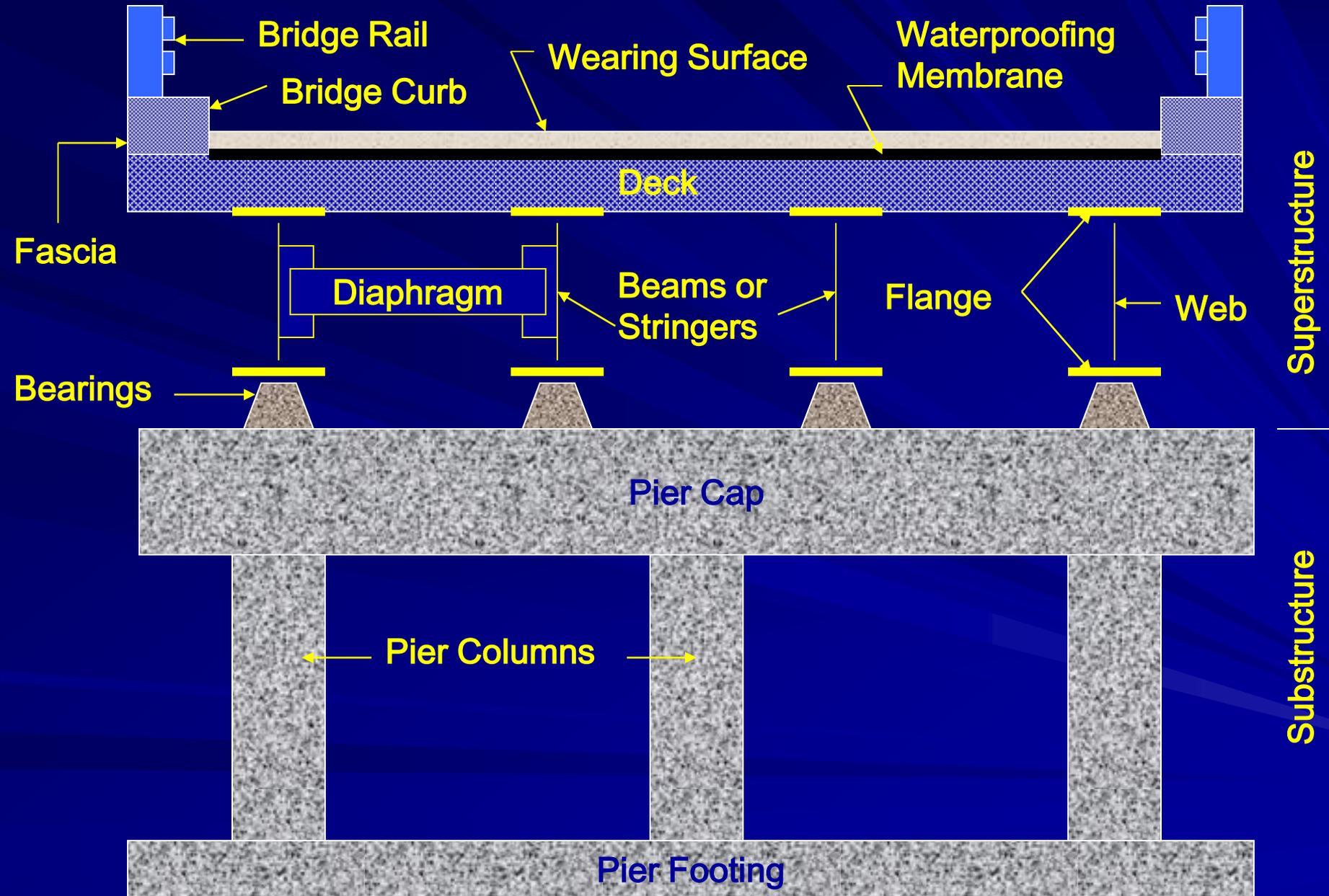
General Session 1

- Definition of a Bridge & Minor Span
- Who owns/maintains the bridges
- Who inspects the bridges
- Bridge nomenclature, types & anatomy
- What to look for

**The hardest thing in life to learn
is which bridge to cross and
which to burn.**



Basic Bridge Anatomy



We Need Your Eyes



Call the Office!



OOOPS

02/14/2006

Hey...That doesn't look right!



Buried Slab-No Curb



Buried Slab



This is what happens



Houston, We Have a Problem

Undermined Pile Supported Abutment



Accident Damage Cracked I-Beam



Beam Separated from Deck



Impact Damage

Beam Sweep



Impact Damage



Breakout Sessions

- Bridge Preservation Techniques
- Bearings and Beam Ends
- Reinforcing Steel
- Wearing Surface Maintenance
- Bridge Rail
- Bridge Joints

Concrete and Steel Preservation

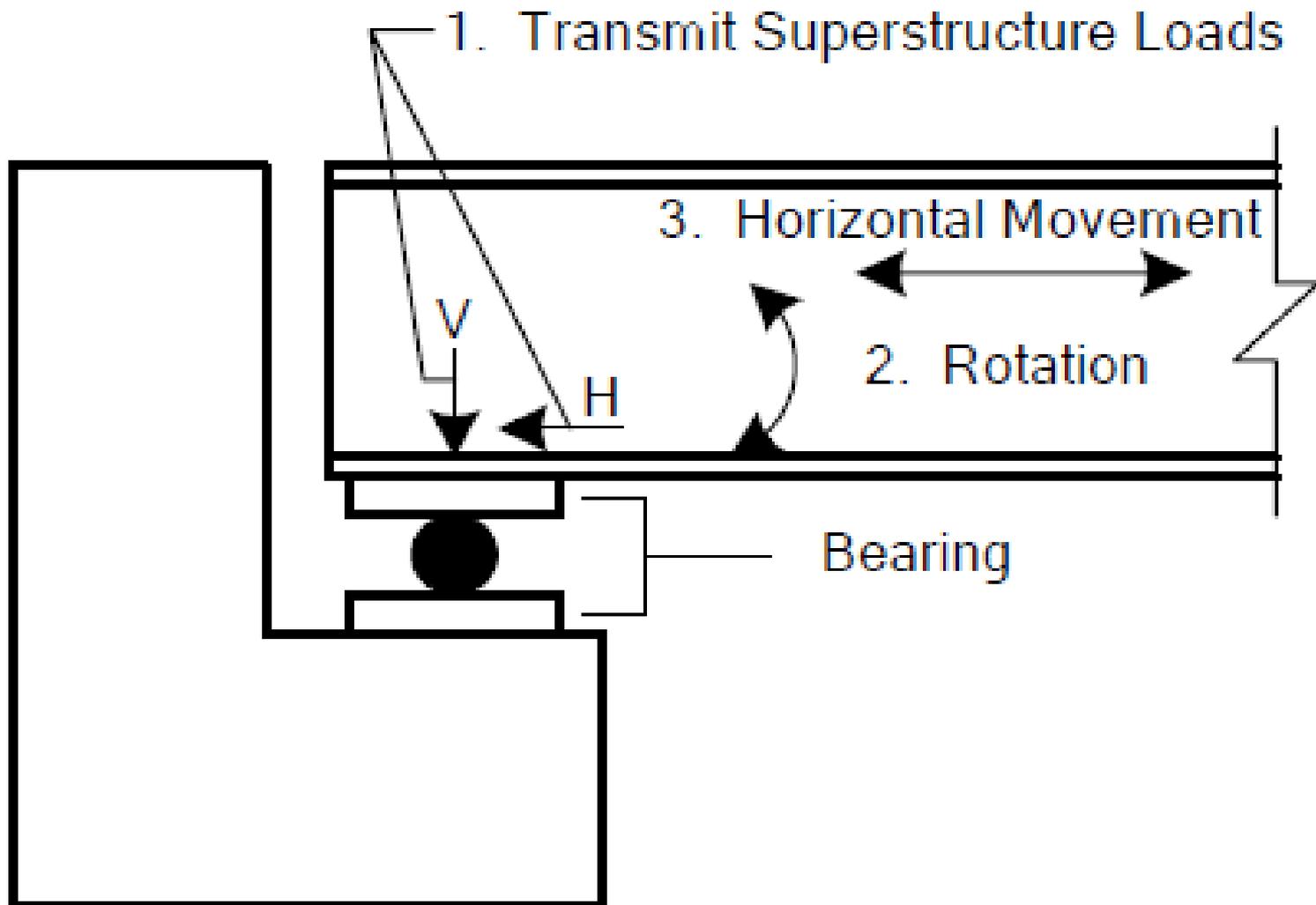
Introduction

- This Module of Bridge College will discuss current methods we use to preserve concrete and steel on our bridges
- We will discuss why preservation is important and the role it plays in a strategic approach to taking care of bridges in Maine



Bearings and Beam Ends

Bearings – Functions



Beam End Corrosion



Reinforcing Steel

Class Outline

1. Purpose of Rebar
2. Rebar -- Sizes and Types
3. Coating and Prep
4. Cutting and Bending
5. Drilling and Anchoring
6. Rebar Placement
7. Tying Methods
8. PPE and Hazards

MAINEDOT's BRIDGE COLLEGE

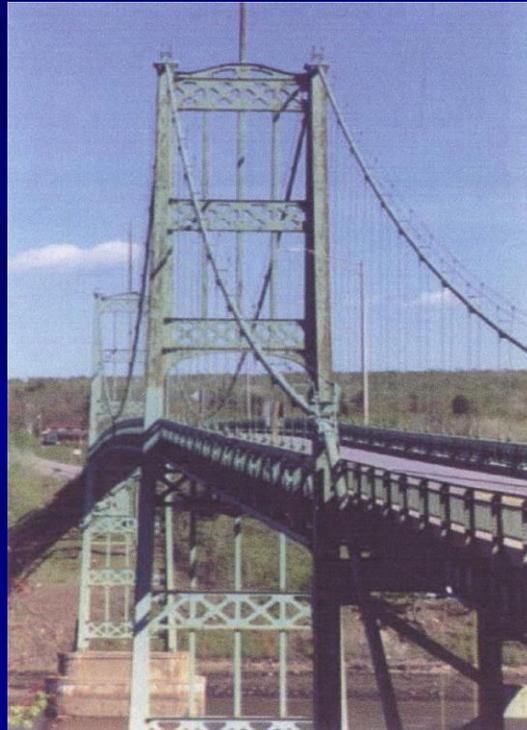
Wearing Surface/Deck Patching



Portland – Veterans #3945



Bridge College



Bridge Rail

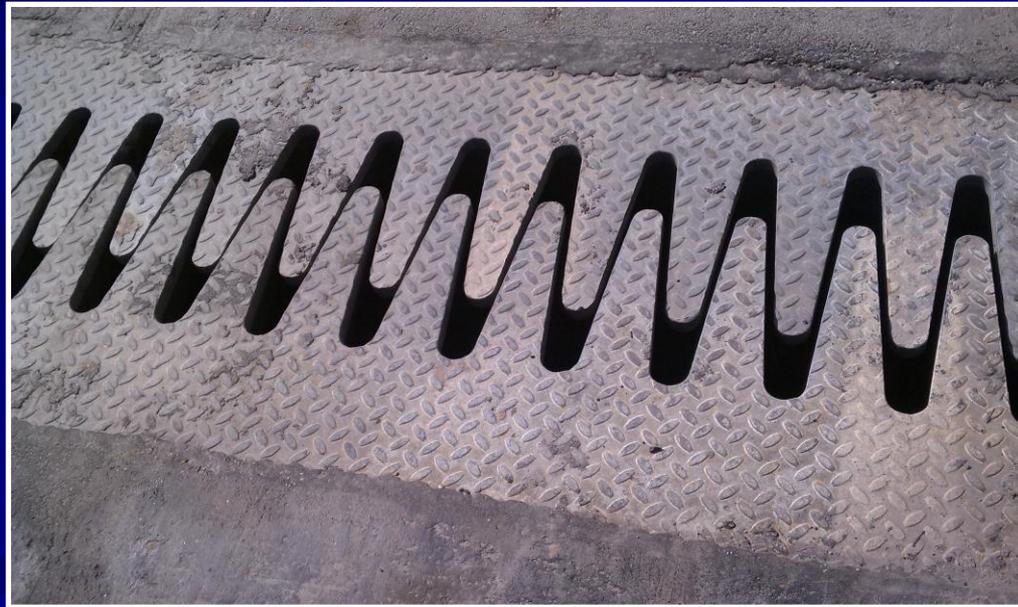
Damages to Rail:

■ Typical Examples:



As you can see, there is very little damage.

Introduction To Bridge Joints



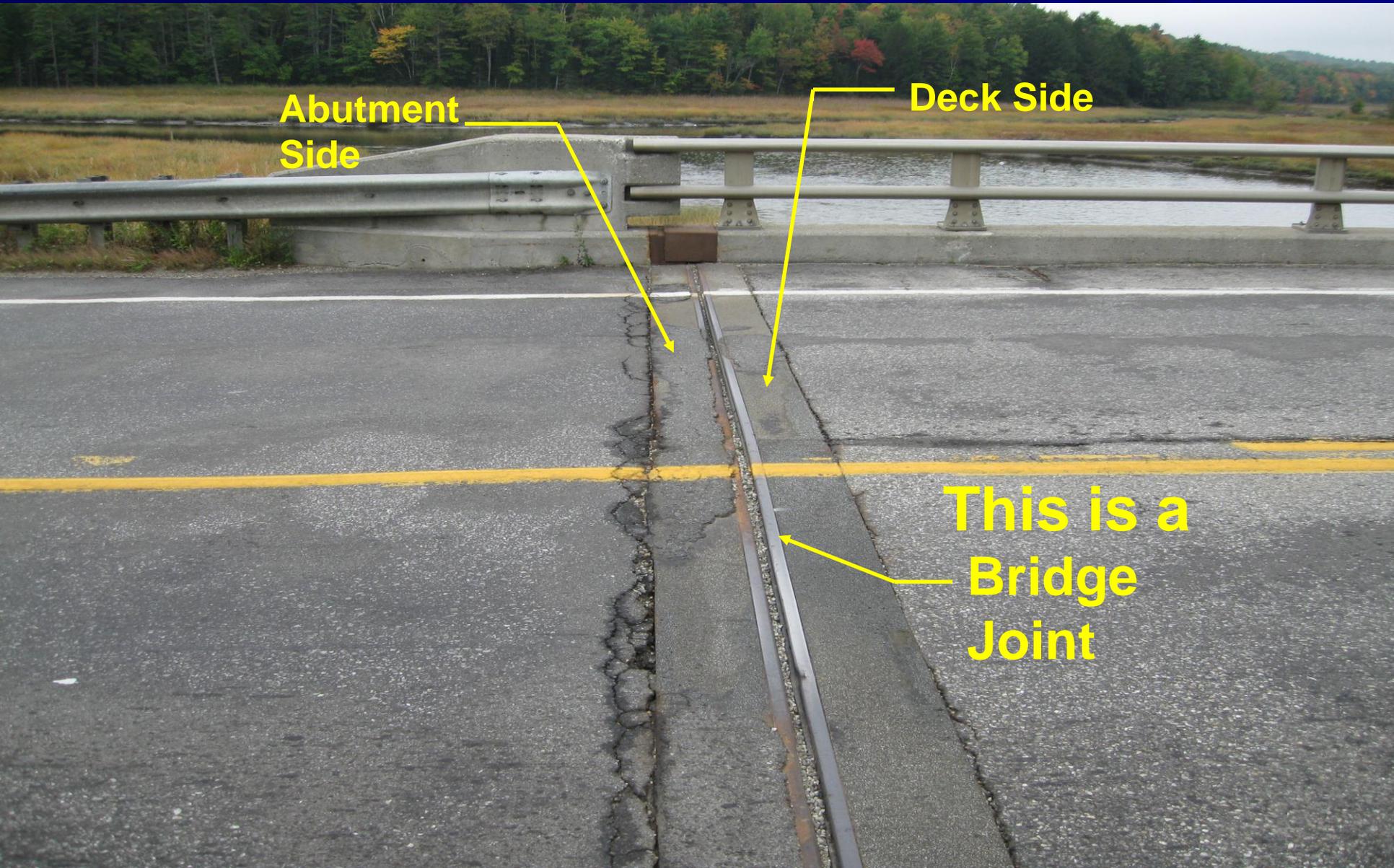
It is said, the great legendary coach, Vince Lombardi - at the very beginning of every season gathered up all his players – and said.....

“This is a Football.”



**He was stressing –
FUNDAMENTALS.**

Bridge Joint Locations



Abutment
Side

Deck Side

This is a
Bridge
Joint



SCOUR

Babbling Brook



Just Add Water



Scour POA Implementation



What Do I Look For?

 DAILY HAHA
YOUR DAILY LAUGHTER

- Pavement cracking behind bridge
- Abutments rotated
- Piers tilted
- Slumping behind wings
- Irregular or misaligned bridge rail
- Water and/or debris against bridge

Scour Plaque



What's Next

- Bring Bridge College 101 to each of the Regions one more year then have one session in a central location per year
- Bridge College 102 – More hands on field oriented activities. Concrete forms, welding, staging erection.

Ready to Reach New Heights?

