



Bonded Wearing Course

Presented by:

Cesar Lara
Telfer Pavement
Technologies, LLC
Technical Marketing/Sales
Manager

Pavement Preservation– What it is NOT



Pavement Preservation - What it IS



Chip Seal

Fog Seal



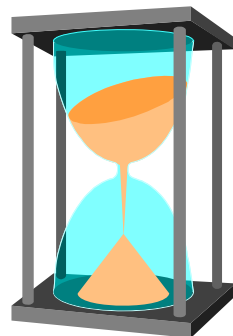
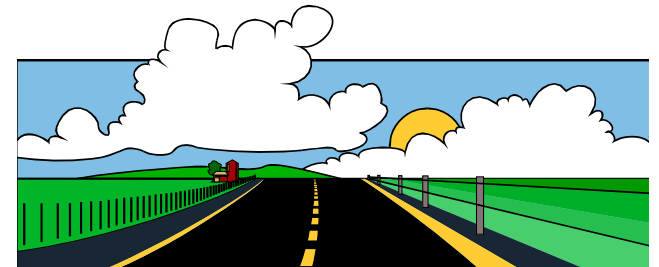
Keep the good roads good.

PAVEMENT PRESERVATION Philosophy



Right Treatment

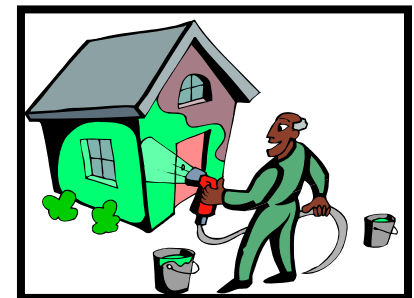
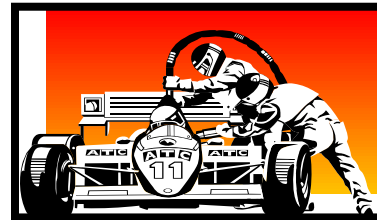
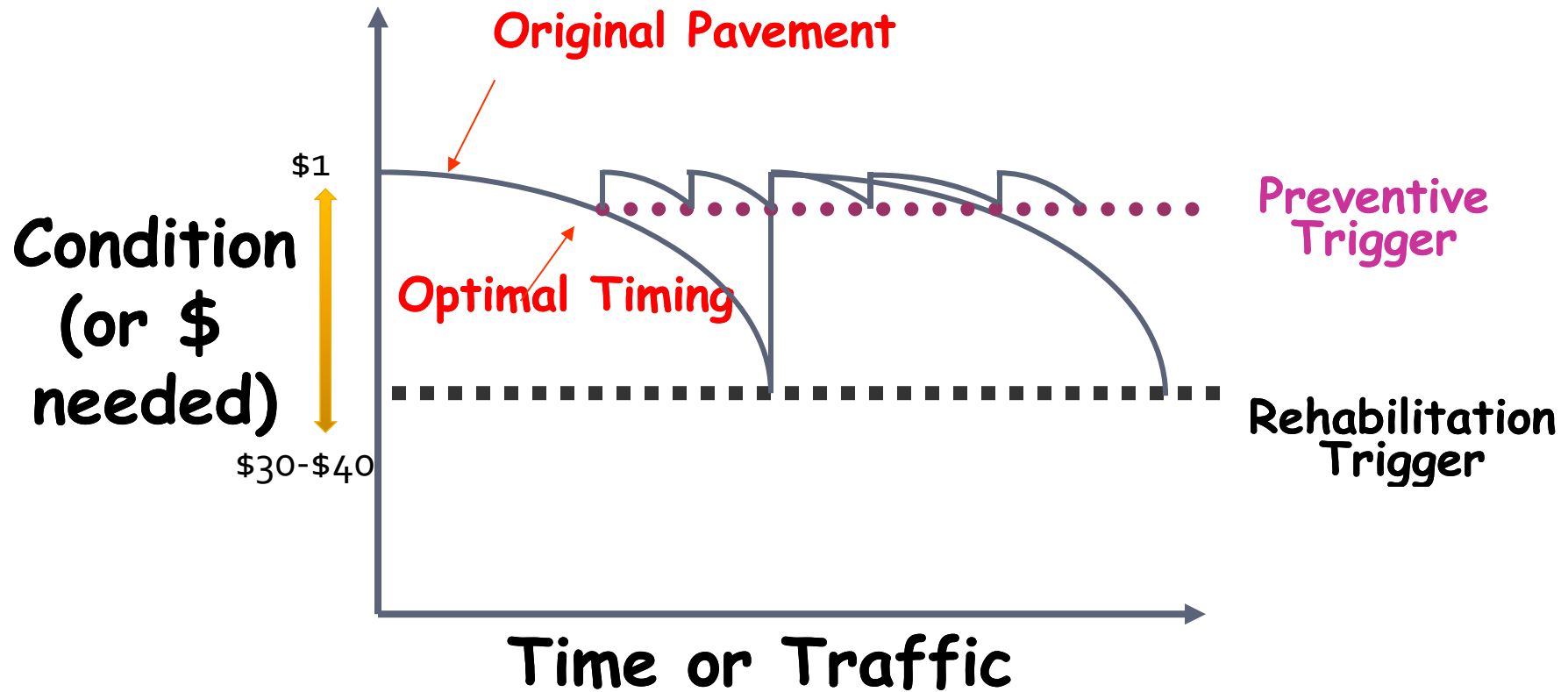
Right Pavement



Right Time

“

Pavement Preservation - Concept



Typical Treatments

- Fog & Rejuvenating Seals
- Chip Seals
 - Cold Applied-
 - PMCRS-2h
 - PMRE
 - Hot Applied –
 - Asphalt Rubber
 - Terminal Blends
- Slurry Seals
- Micro-Surfacing
- Cape Seals
- Bonded Wearing Course

Bonded Wearing Course



What is Bonded Wearing Course?



Maintenance Technique that combines the best of two technologies

- Part Chip Seal
 - Application of .14-.25 gal/SY of a polymer modified emulsion for adhesion
- Part HMA Overlay
 - Use of gap or open graded, polymer or rubberized HMA to finish the process

- From the chip seal
 - Spray application that seals the existing roadway
 - Bonding of the new surface to the old surface
 - Quick process – up to 50,000 SY per day

- From the HMA overlay
 - Improved ride quality
 - Quick return to traffic
 - No sweeping or fog seal needed

BWC Materials

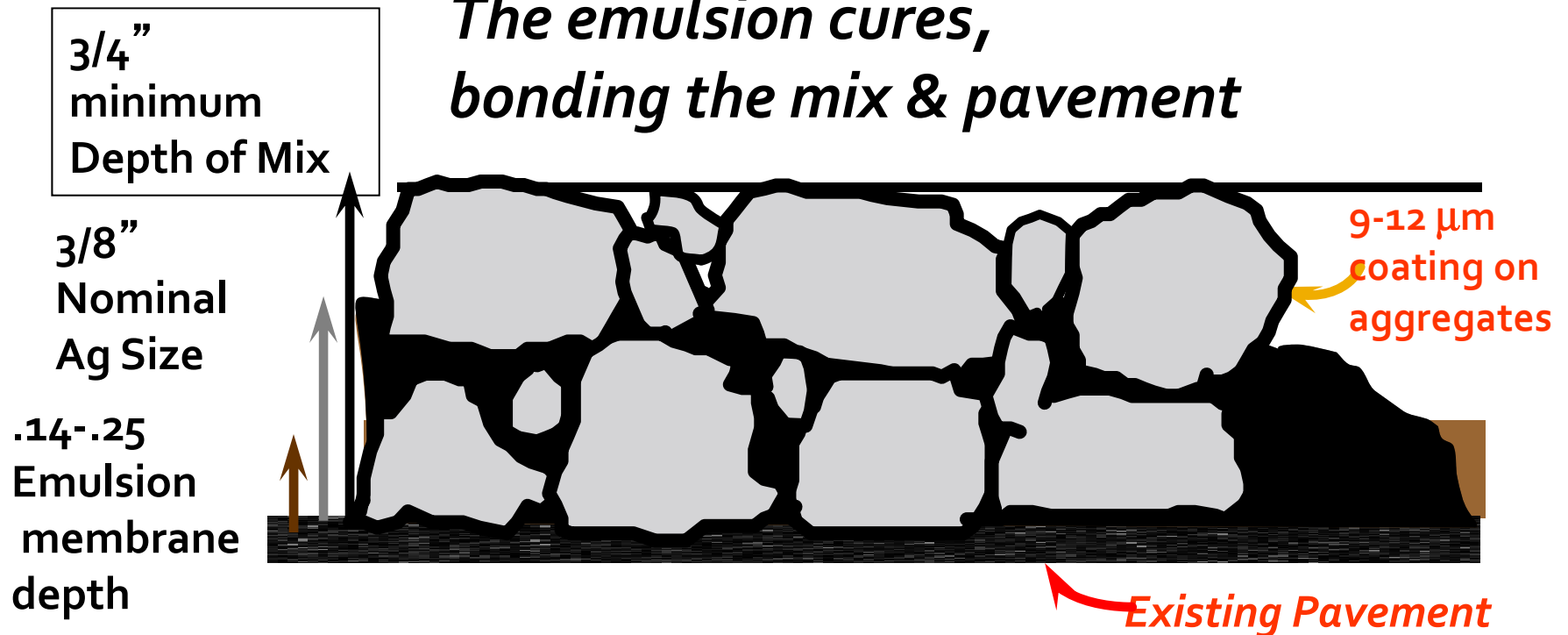
- Polymer Modified Asphalt Emulsion Tack Coat
- Polymer Modified Asphalt Binder
- Gap or Open Graded Aggregate Gradation



The Process

The emulsion membrane “wicks up” around the HMA aggregates

The emulsion cures, bonding the mix & pavement



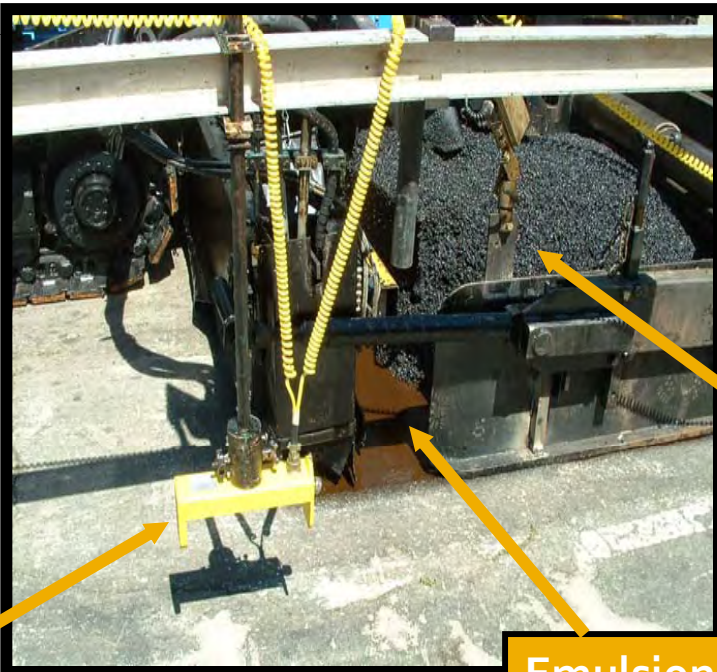
Integrated Spray Paver & MTV



Integrated Spray Paver



Application



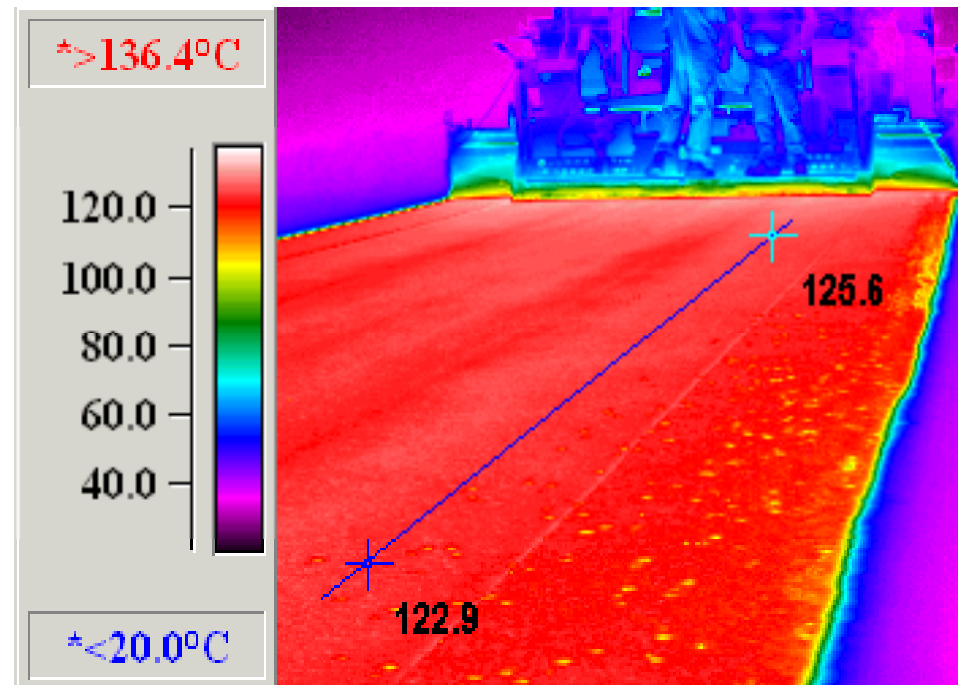
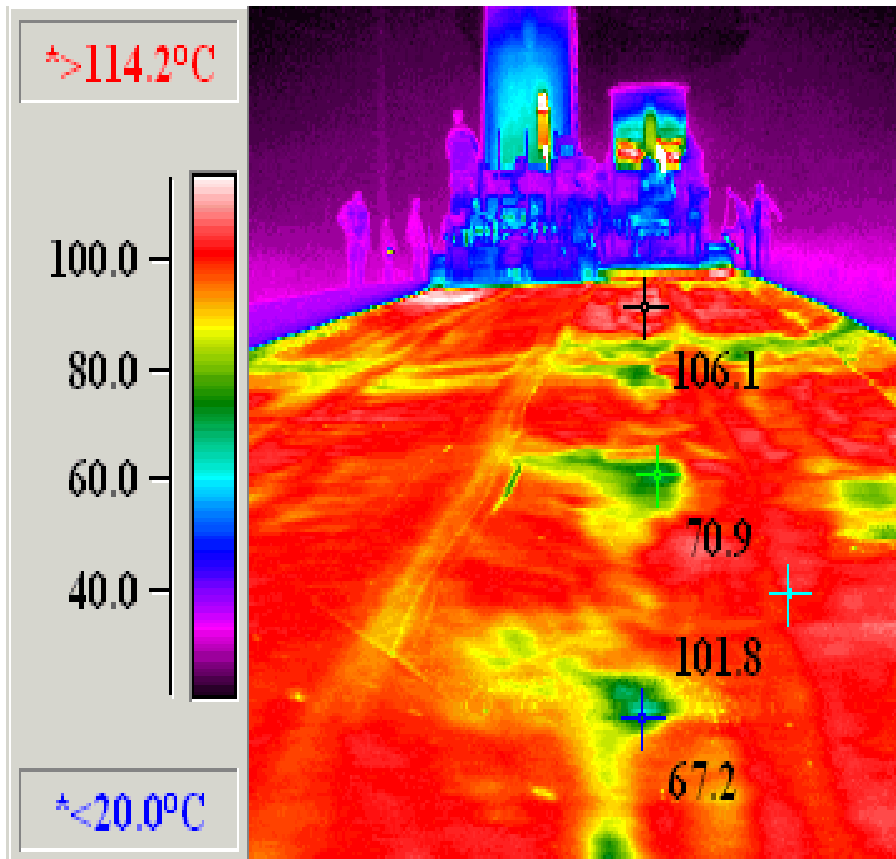
HMA

Emulsion

Joint Matching
Device

MTV – Shuttle Buggy





Machine is designed to reduce thermal and mechanical segregation

BWC Construction

- Emulsion Application Rate:
 - 0.14 – 0.25 gal/yd²
- Lift Thickness:
 - 3/4" – 1"
- Finishing:
 - Method – 2 coverages with a minimum of two rollers in static mode



BWC – in place



BWC ride quality improvement





15 10:45 AM



15 10:52 AM

Construction Speed and Quick Return to Traffic



15 10:47 AM



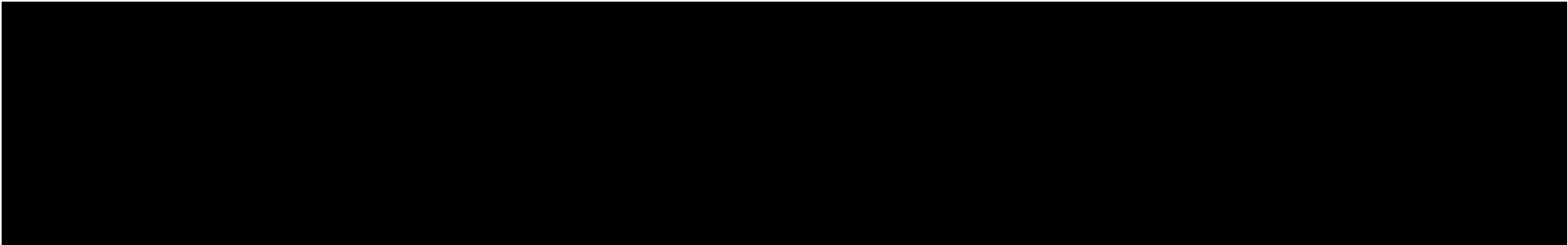
15 11:00 AM



15 11:02 AM

Turning on the New BWC Surface





BWC Candidates

- Roads that have a PCI of 55-60 or better
- Collectors
- Arterials
- Connectors
- Highways
- Residential
- Private

Where has it been used and for how long?

- Since 1998 in California
 - First project – Lark Ellen Blvd, Los Angeles County
- Since 2002 for Caltrans
 - Hwy 50 over Echo Summit, Lake Tahoe



Does it work?



10 Years as of May, after picture taken last week

CALTRANS District 4 – HWY 37



Highway 37



Sonoma County – BWC - 2013



BWC – Far Niente Winery



City of Hillsboro - 2015



City of Hillsboro - 2015



City of Hillsboro - BWC



So, does it work?

- YES.

- Thank you.

TELFER

Cesar Lara (925)914-1724
cesar.lara@telferoil.com

