Michigan Local Agency 2018 Treatment Life Study

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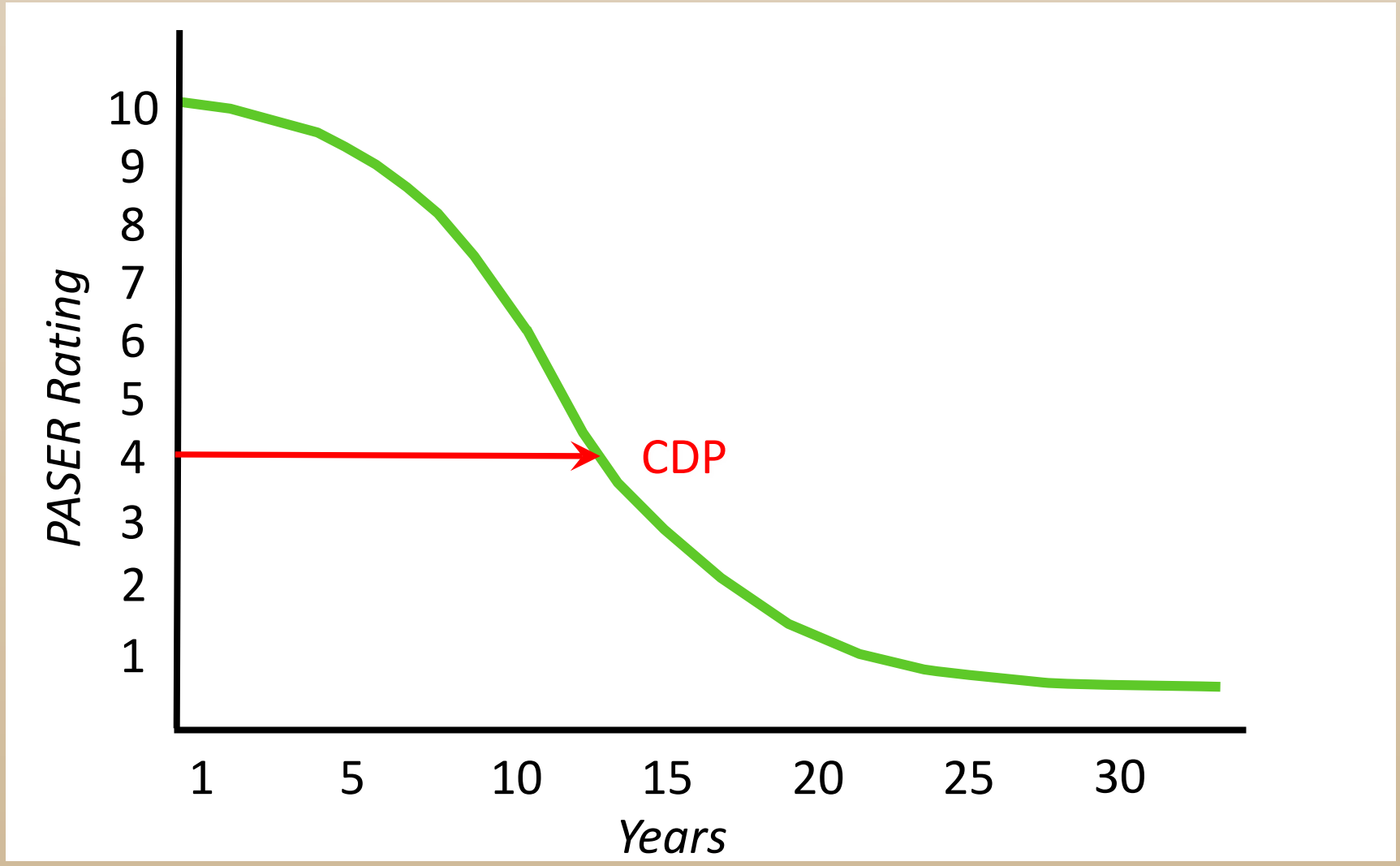
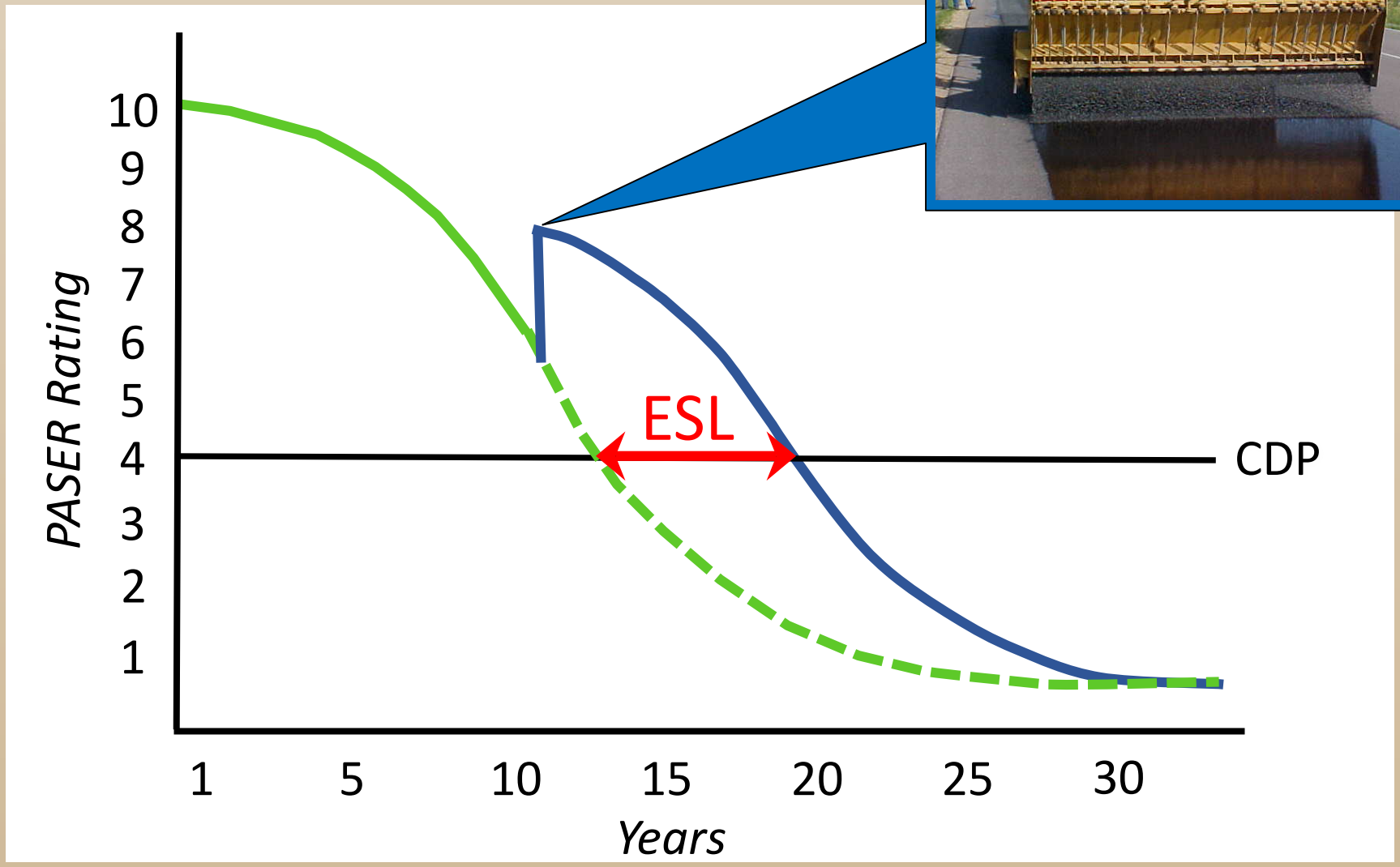
Agenda

- Definitions
- Key Finding
- ESL Background
- Study Overview
- Results

Critical Distress Point



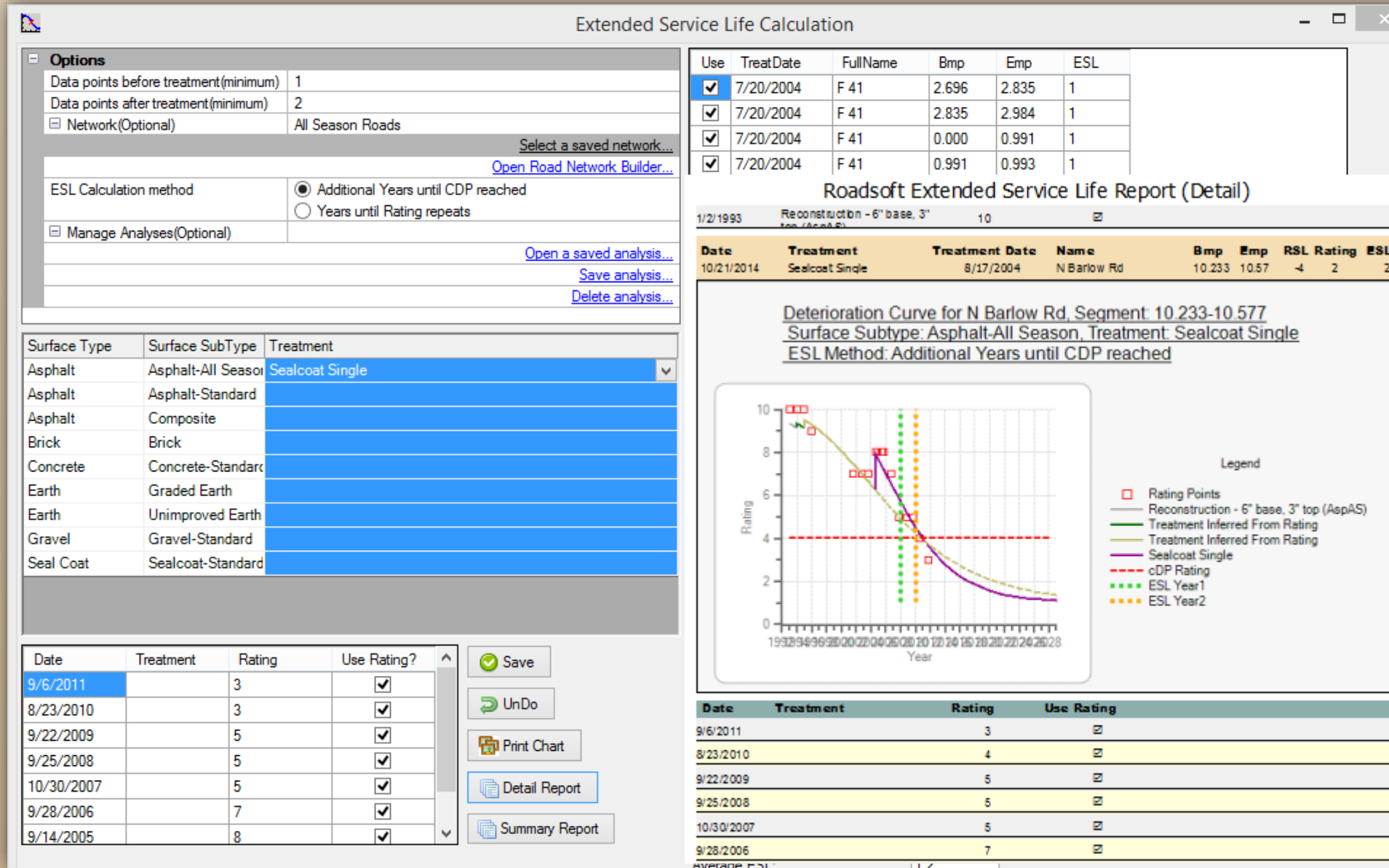
Extended Service Life



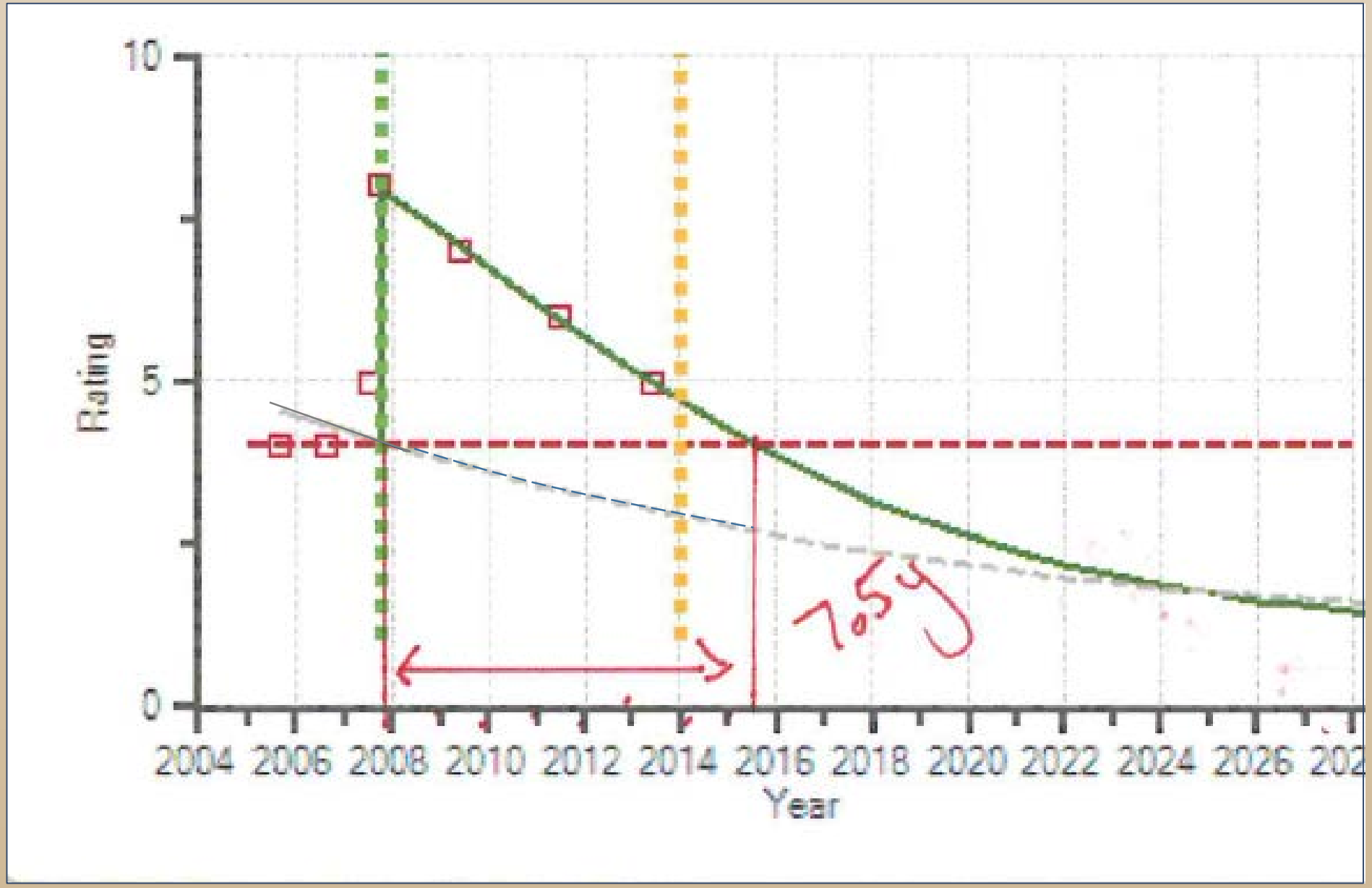
Key ESL Finding

Chip Seal	4.1 years
Chip Seal + Fog	7.1 years

Roadsoft Tool Background



Needed ESL Calculator Updates



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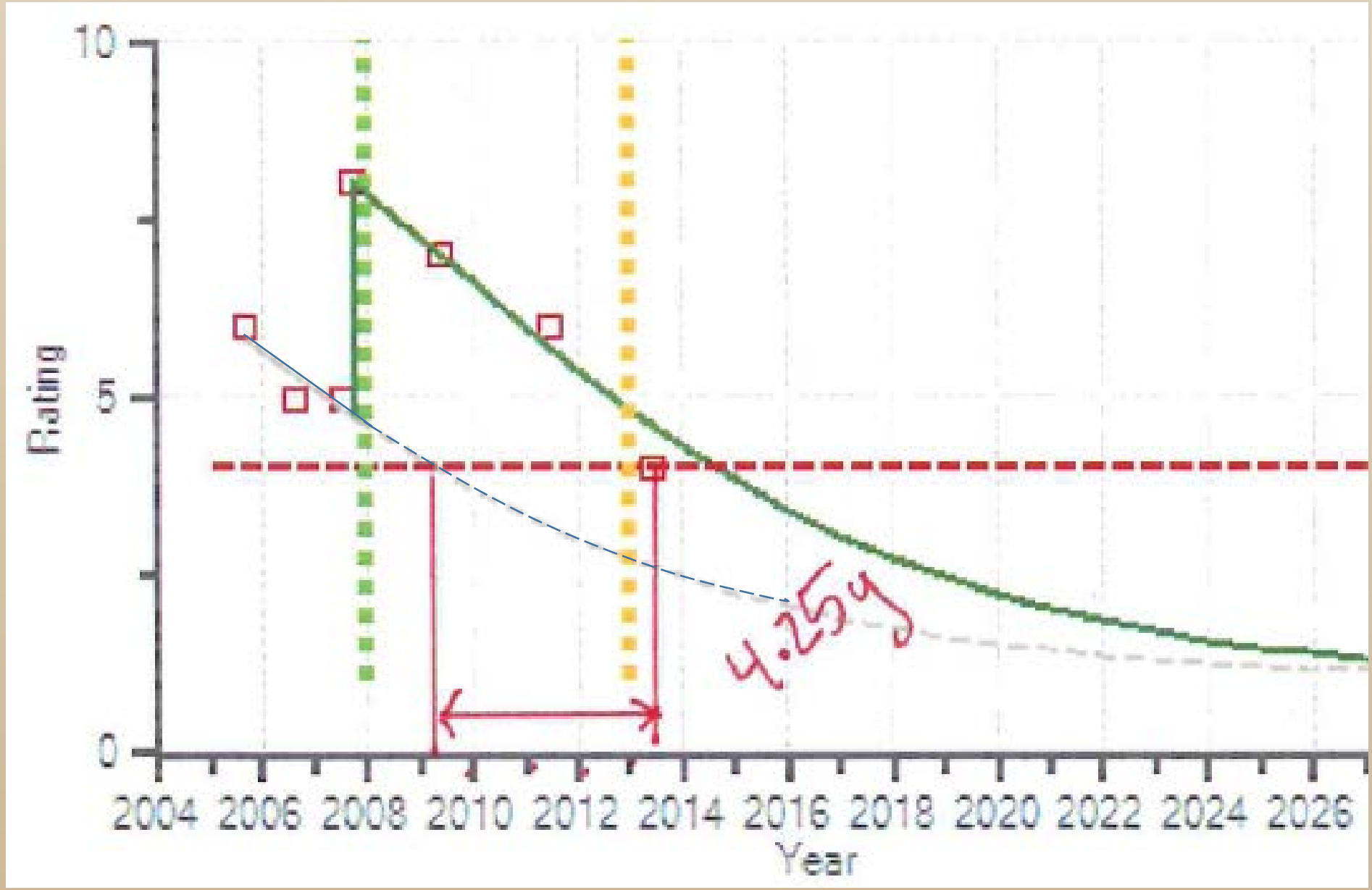
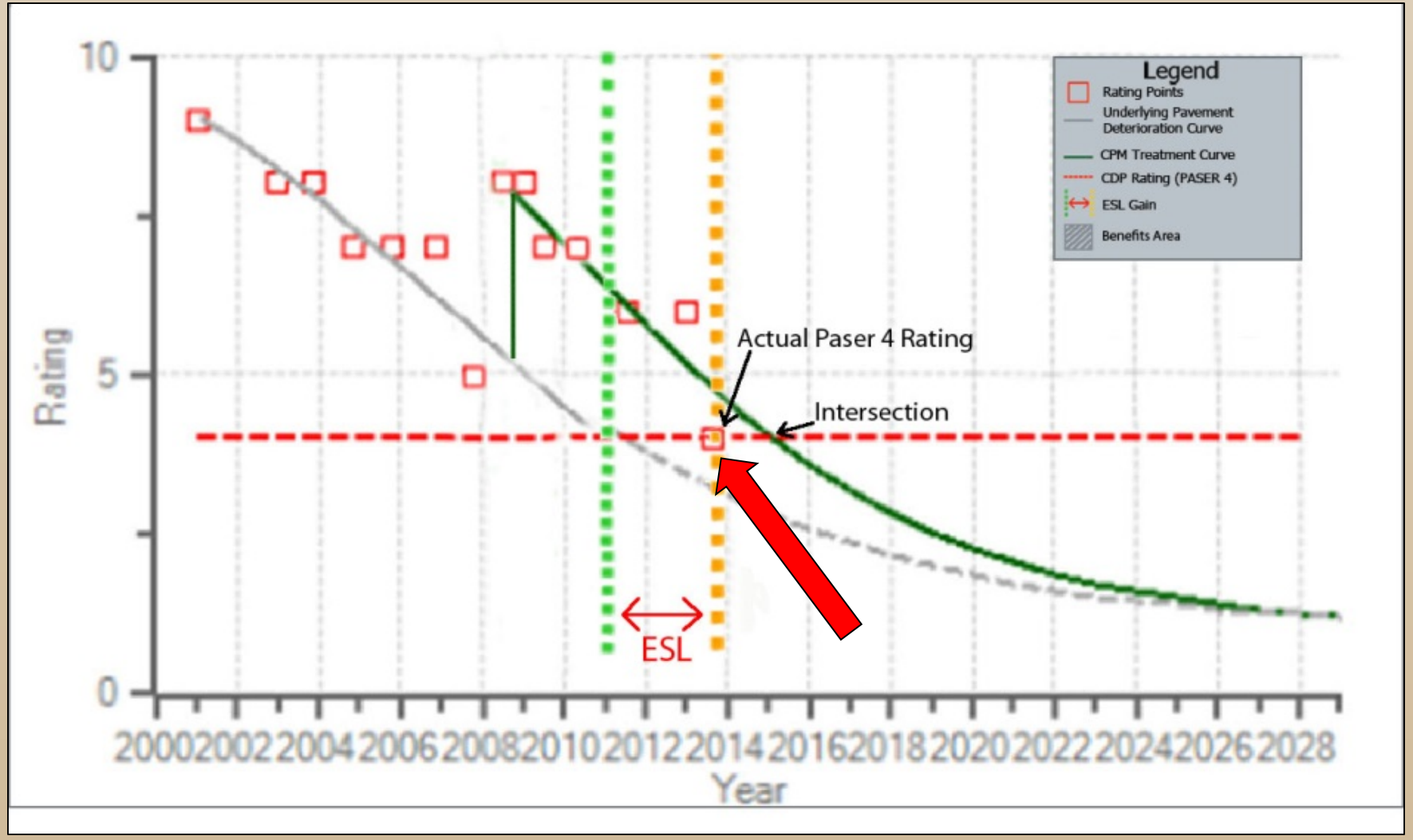
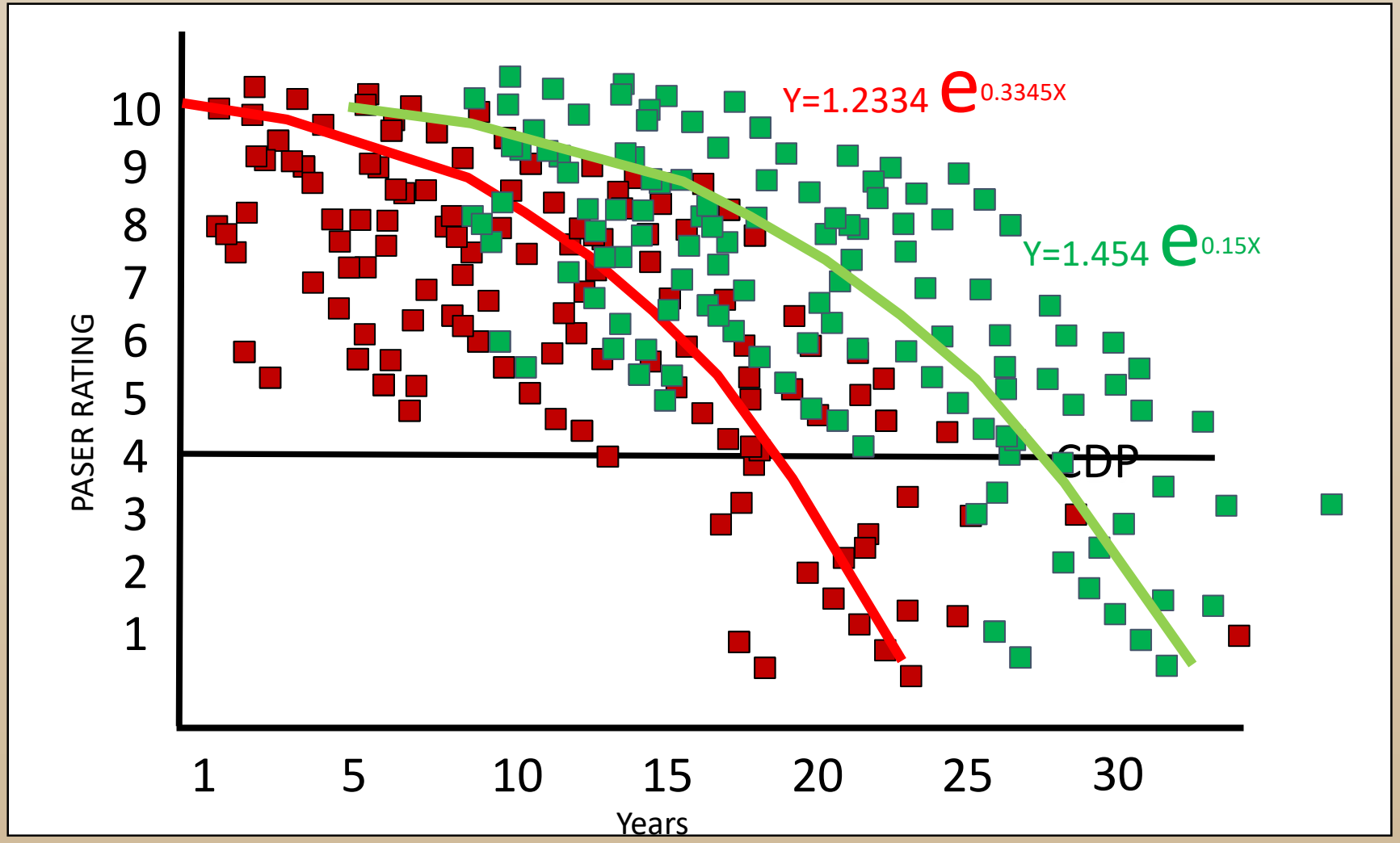


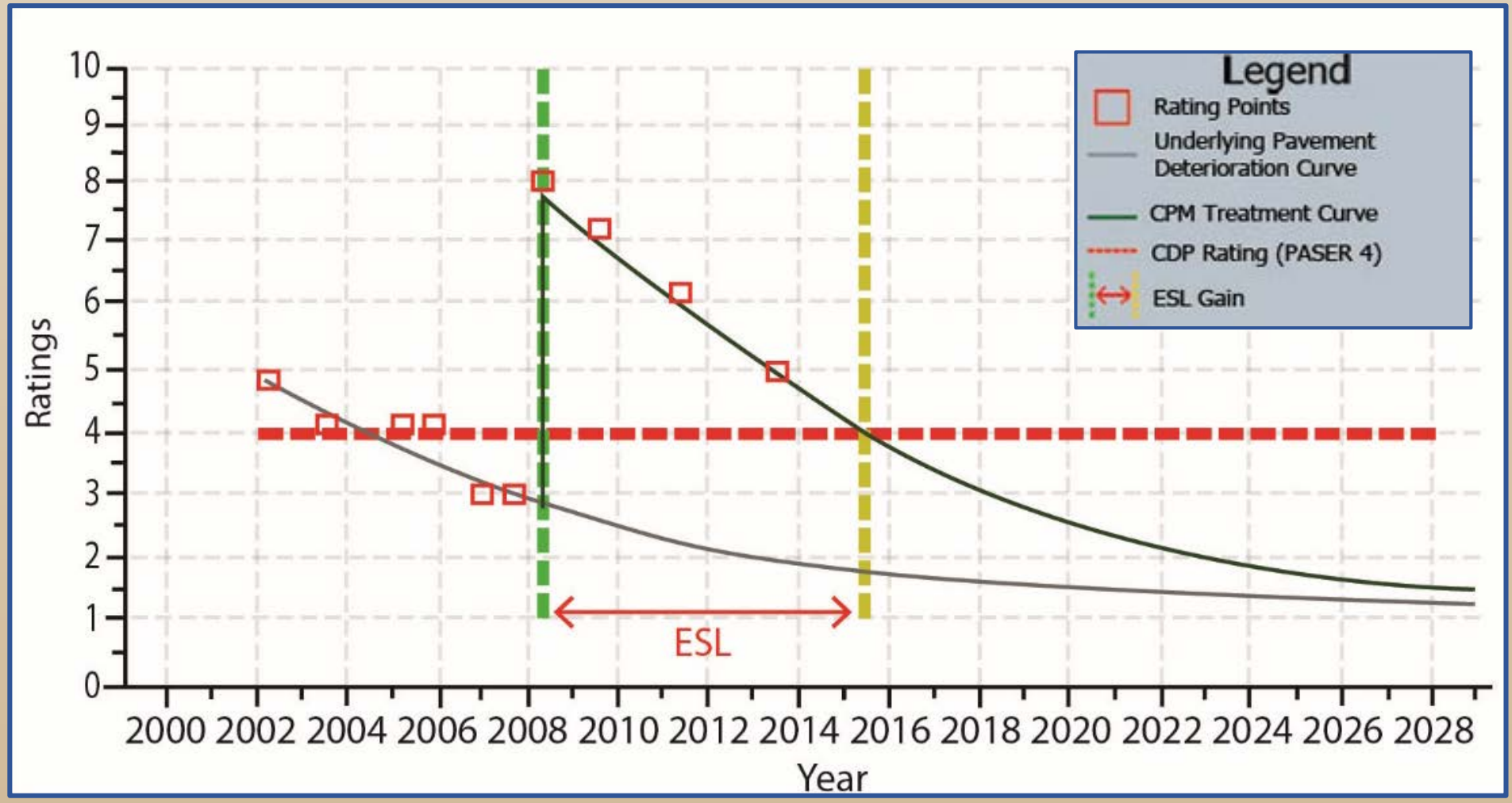
Measuring ESL: Actual vs. Modeled



Other Studies use Aggregate Modeling Techniques



We used Individual Element Modeling



Why don’t more people use this method for analysis?

Study Data Selection Criteria

- Asphalt pavements
- Federal aid eligible roads
- 1st applied treatment ever or after a heavier treatment
- 3 rating points before and after treatment
- Only rating data prior to 2000

Data That Met Criteria

Agencies

Miles

Segments

14 Treatments Meeting Criteria

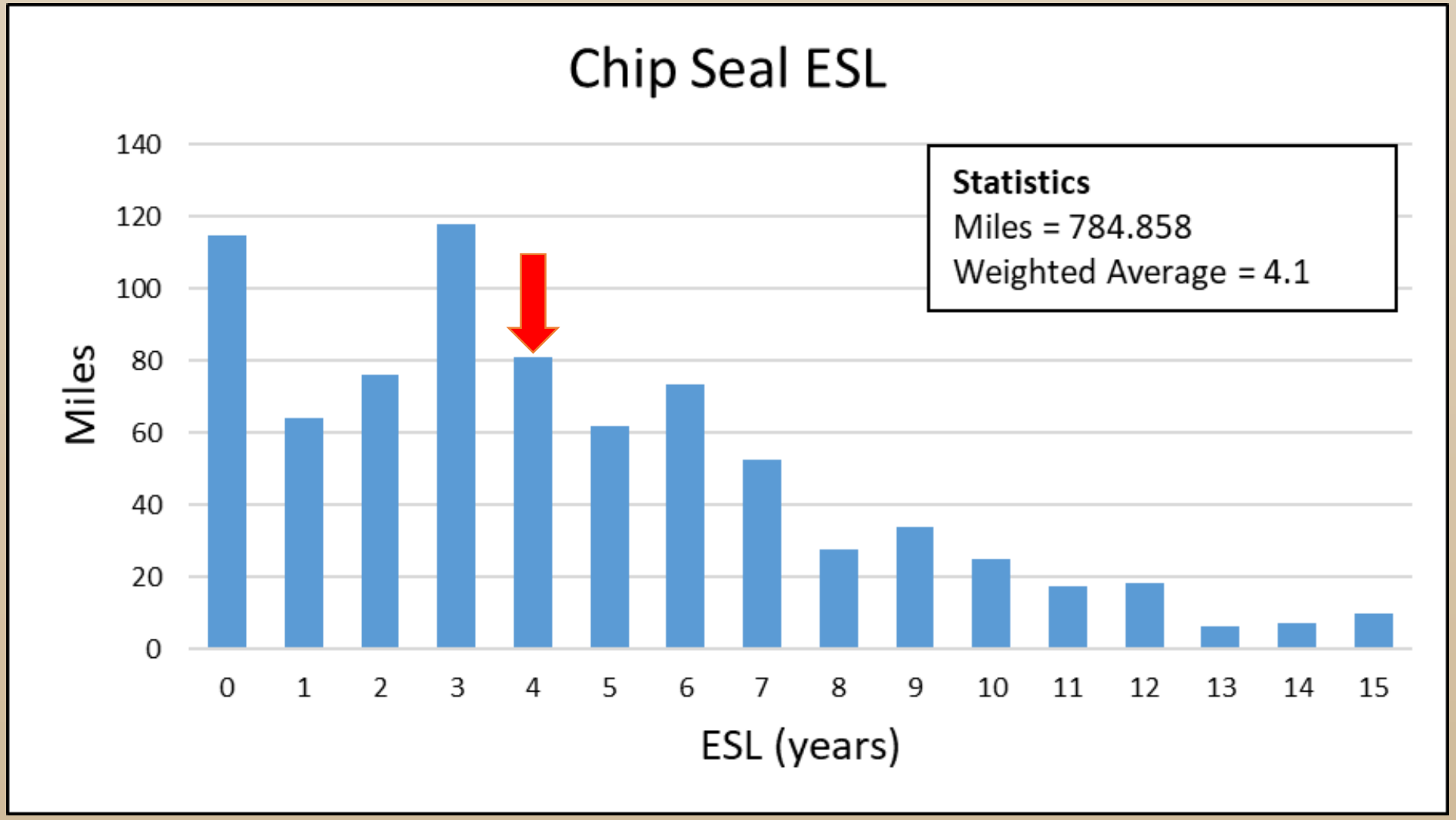
Cape Seal
Chip Seal
Chip Seal + Fog
Microsurface
Slurry Seal
Thin Overlay
Cold in Place (CIP) + Overlay
Crush & Shape
Hot in Place (HIP)
HIP + Overlay
HMA Wedge + Chip Seal
HMA Wedge + Overlay
Thick Overlay
Reconstruction

5 Treatments with Enough Data

- Chip Seal
- Chip Seal + Fog
- Thin Overlay
- Crush & Shape
- Thick Overlay

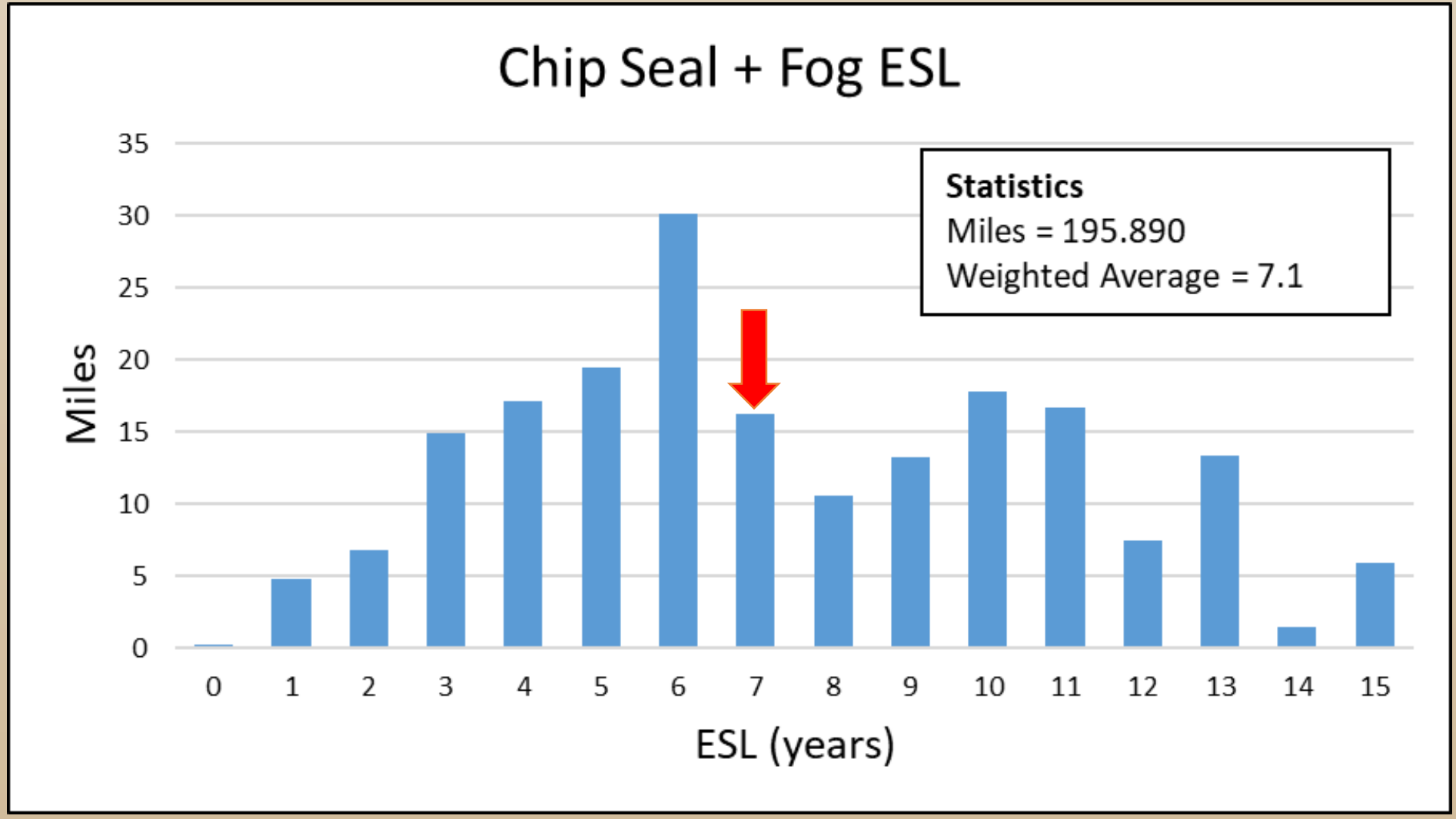
Seal Coat (Chip Seal)

Chip Seal Results



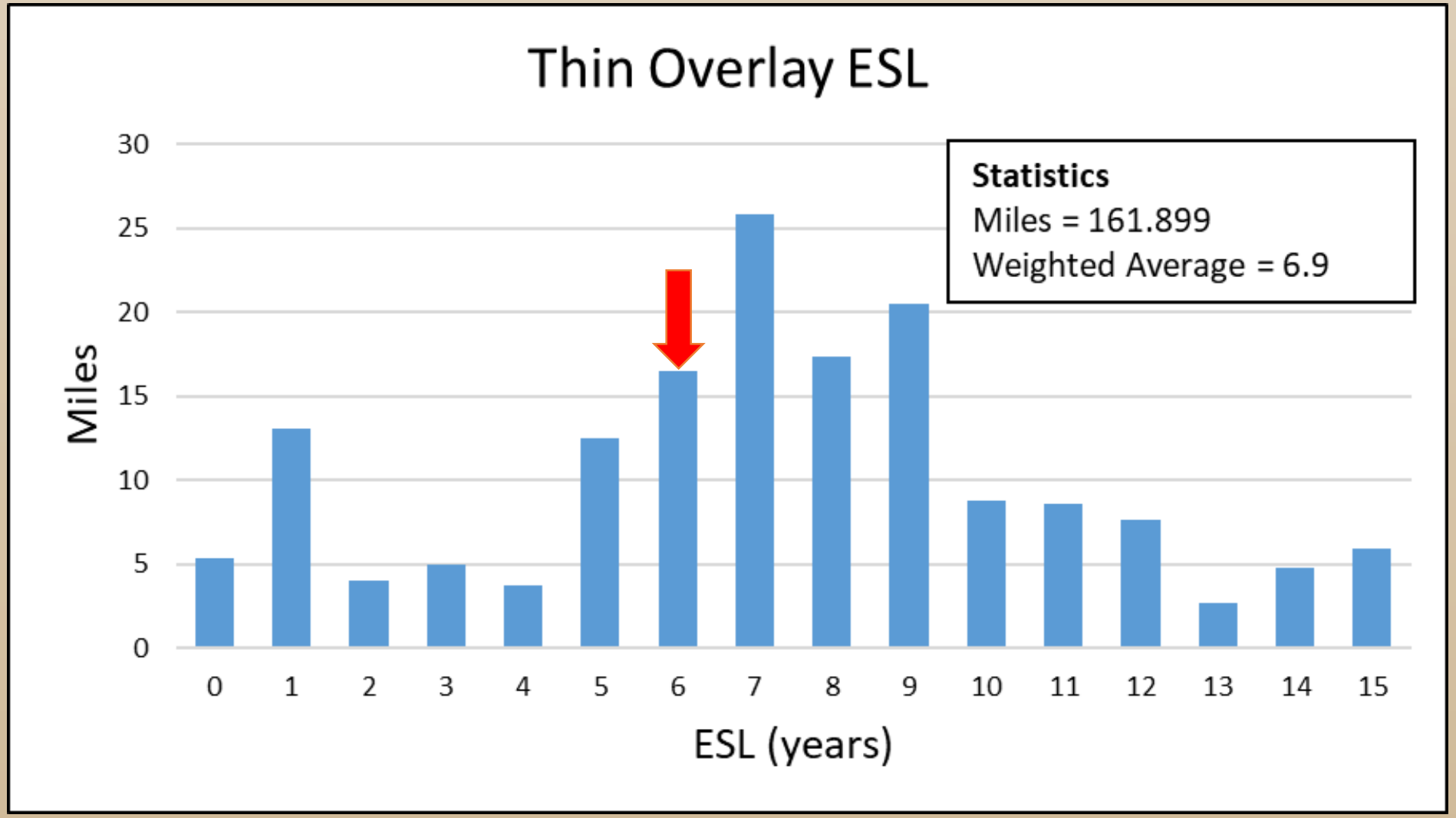
Chip Seal + Fog Seal

Chip With Fog



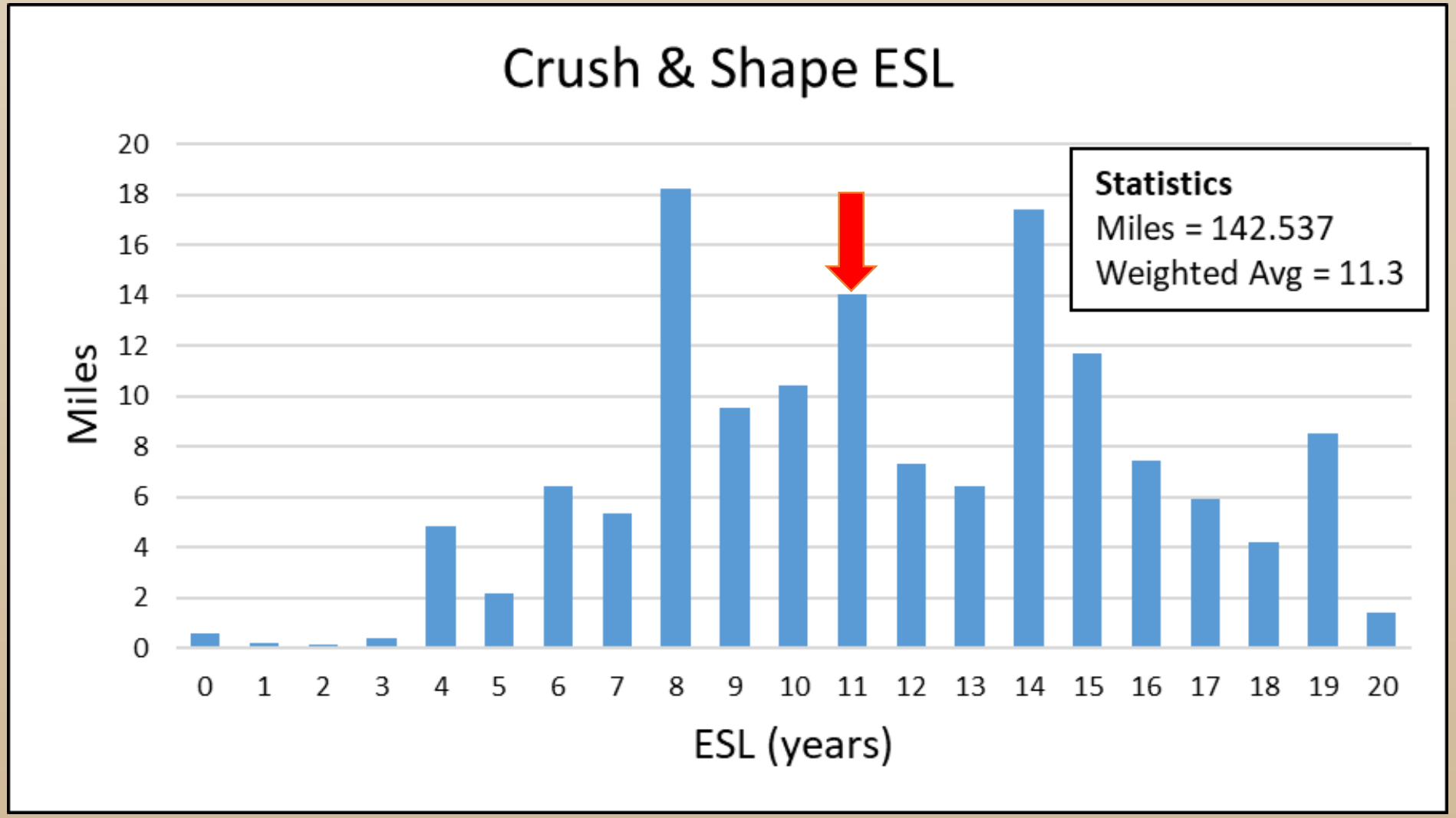
Thin Asphalt Overlay

Thin Asphalt Overlay



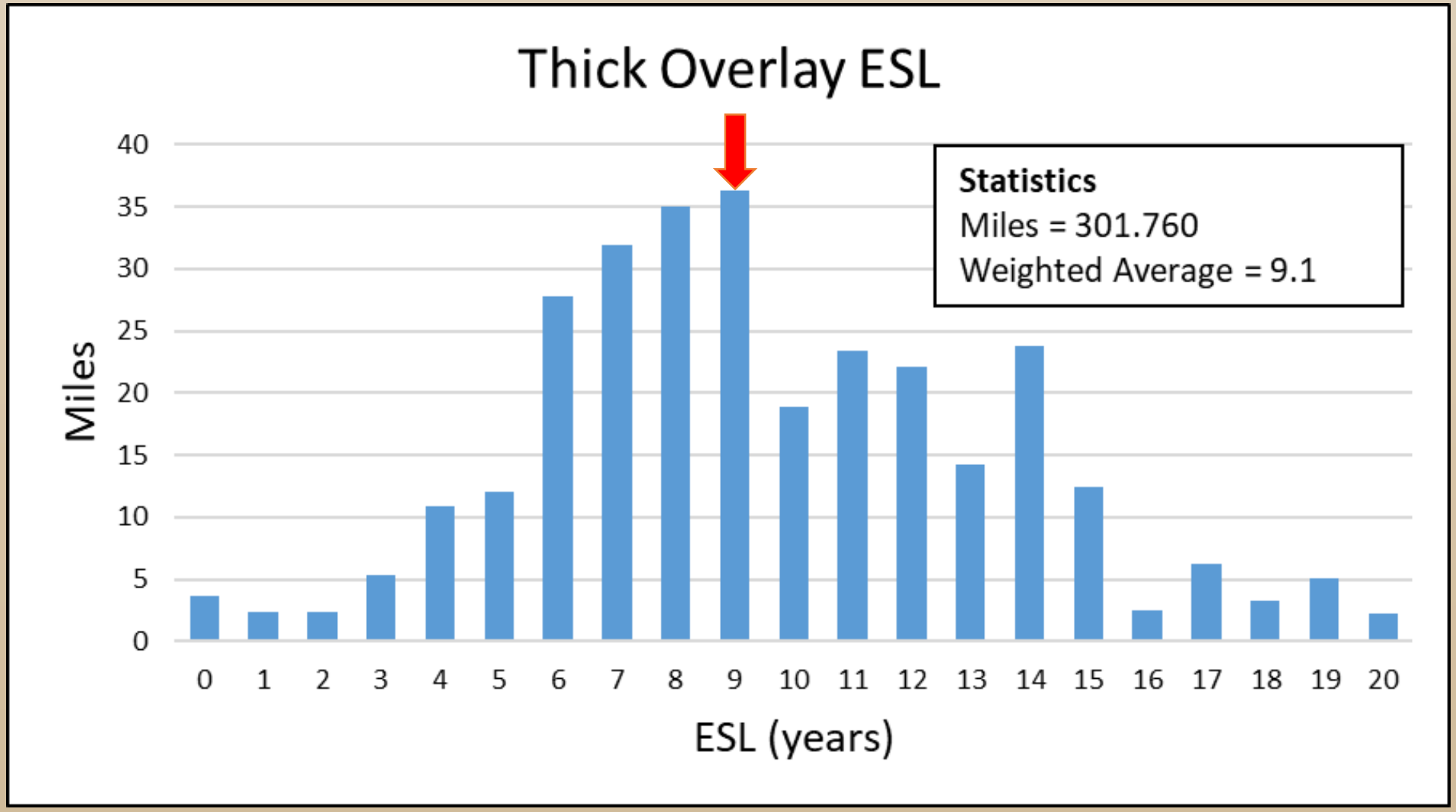
Crush and Shape

Crush and Shape

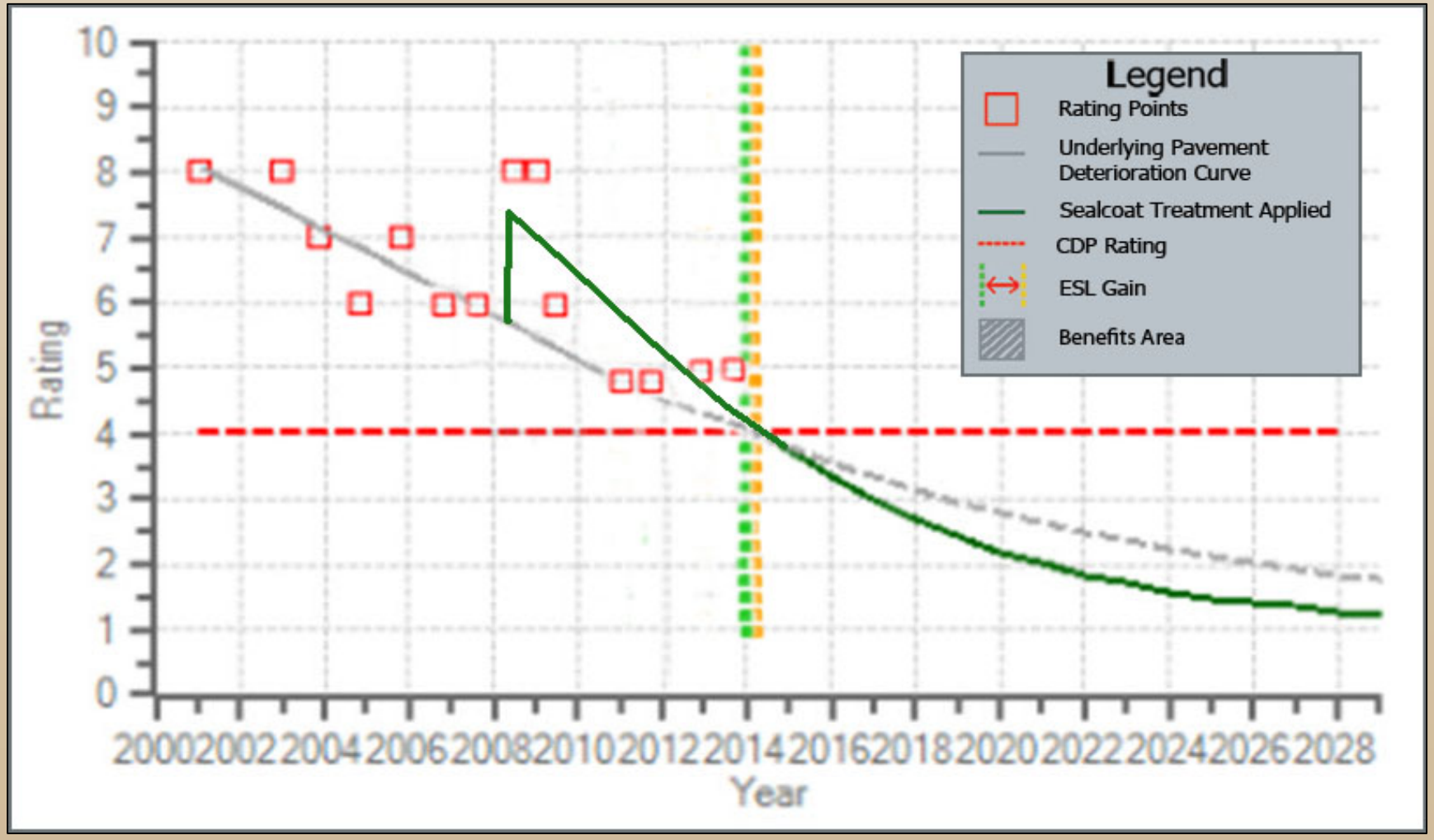


Thick Asphalt Overlay

Thick Asphalt Overlay



Zero or Low ESL Gain?



Age VS Load Related Distress

Age Related Distress

Transverse Cracking

Longitudinal Cracking

Block Cracking

Load Related Distress

Rutting

Cracking in the Wheel Path

Alligator Cracking

Other Variables

Legal System

National Function Class

Lanes

Region

Region Breakdown

Chip Seal

Thick Overlay

Points To Take Away

Study looked at worst case analysis for ESL

Local agencies are collecting high quality data

Local agencies gain significant benefit with treatments

Cost effective analysis should drive practice

You have the data and tools to do this yourself

Contact Information

Michigan
Transportation Asset
Management Council

www.michigan.gov/tamc

**Michigan's
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Assistance Program**

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