PASER Training
Part 1: Distress Identification

TAMC Data Collection Training Program
PASER for Paved Roads
Part 1: Distress Identification
Part 2: Pavement Rating Intro & Council Update
Part 3: Rating and Data Collection Rules
Part 4: Rating Exercises

Inventory-Based Rating for Gravel Roads
See ctt.mtu.edu for upcoming trainings
PASER Training Part 1 Agenda

Distress Identification for Rating:

- Asphalt
- Concrete
- Sealcoat

Closing Thoughts

Preparing for Rating
4 Major Pavement Types

- **Hot Mix Asphalt (HMA)**
  - Asphalt
  - Base (Gravel)
  - Sub-Base (Sand)
  - Sub-Grade (Native Soils)

- **Concrete**
  - Concrete
  - Base (Gravel)
  - Sub-Base (Sand)
  - Sub-Grade (Native Soils)

- **Composite**
  - Asphalt
  - Old Concrete
  - Base (Gravel)
  - Sub-Grade (Native Soils)

- **Sealcoat**
  - Base (Gravel)
  - Sub-Base (Sand)
  - Sub-Grade (Native Soils)

---

**Asphalt Distress Types**

- **Age**
  - Brick
  - Base (Gravel)
  - Sub-Base (Sand)
  - Sub-Grade (Native Soils)

- **Structural**
  - Gravel
  - Sub-Base (Sand)
  - Sub-Grade (Native Soils)

- **Limited**
  - Images of limited asphalt distress types
Asphalt Distress Types

Environment

Age Related Asphalt Distress
<table>
<thead>
<tr>
<th>Primary Age-related Distresses: Cracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transverse</td>
</tr>
<tr>
<td>Longitudinal Joint</td>
</tr>
<tr>
<td>Block</td>
</tr>
</tbody>
</table>

### Transverse Cracking

- **Spacing**
  - > 40’
  - 10’ to 40’
  - < 10’
Longitudinal Joint Cracking

Common Construction Joint

Second Pass

First Pass

Asphalt

Gravel Base
Longitudinal Construction Joint (Tapered)

Asphalt

Gravel Base

Age Related Asphalt Distress

Longitudinal Tapered Joint Cracking

Age Related Asphalt Distress
Block Cracking

Block Cracking Progression
Block Cracking – First Signs

First Signs
(6’ to 10’ blocks)

Block Cracking – Moderate

Moderate
(1’ to 5’ blocks)
Block Cracking – Severe

Crack Width - Tight
Crack Width – Open

Secondary Cracking
More Than Just a Crack.....

A note about cracks...
A sealed crack is still a crack
Width varies highly depending on time of year
  Thermal expansion and contraction
Base Weakening & Loss of Support

Distress Propagation

Structural Related Asphalt Distress
Load Distribution

Asphalt
Gravel Base
Sand Sub-Base
Native Soil (sub grade)

Load Distribution – Small Vehicle

Rigidity
Cost

Structural Related Asphalt Distress
Load Distribution – Large Vehicle

Repeated Loading

Structural Related Asphalt Distress
Structural Distresses

- Rutting
- Shear Cracking
- Alligator Cracking

Structural Distress – Rutting
Structural Distress – Rutting

Deep Rutting

Surface Rutting

Rutting Progression

First Sign
Rutting Progression

Moderate

Structural Related Asphalt Distress

Severe

Rutting Progression

Severe

Structural Related Asphalt Distress
Measuring Rutting

Structural Distress – Shear Cracking
Shear Cracking

Load Related Distress Progression
Shear Crack Progression

First Sign

Shear Crack Progression

Moderate
Shear Crack Progression

Structural Related Asphalt Distress

Structural Distress – Edge Cracking
Edge Cracking

Moderate

Edge Cracking

Progressed
Structural Distress – Alligator Cracking

Alligator (Fatigue) Cracking

First Sign
Alligator (Fatigue) Cracking

Percent of Worst Lane

Structural Related Asphalt Distress
Asphalt Distress Types

Limited Extent – Surface Distress

- Raveling
- Flushing or Bleeding
- Polishing
Surface Distress - Raveling

Severe

Limited Extent Asphalt Distress

Surface Distress – Flushing / Bleeding

Slight to Moderate

Limited Extent Asphalt Distress
Surface Distress – Flushing / Bleeding

Extensive to Severe

Surface Distress – Polishing

Slight to Moderate
Surface Distress – Polishing

Limited Extent Asphalt Distress

Extensive to Severe

Limited Extent – Structural Distress

Slippage  Frost Heave  Differential Settlement
Limited Extent – Layer Slippage

First Signs
**Limited Extent – Layer Slippage**

**Limited Extent – Frost Heave**

**Advanced**

**First Distress**
Limited Extent – Frost Heave

- Water Intrusion

Limited Extent – Frost Heave

- Localized Heaving
Limited Extent – Frost Heave

Base Weakening, Loss of Support

Limited Extent Asphalt Distress

Limited Extent – Frost Heave

Distress Propagation

Limited Extent Asphalt Distress
Limited Extent – Frost Heave

Limited Extent – Differential Settlement
Limited Extent – Differential Settlement

Break Time
Concrete Pavement

Concrete Distress Types

- Concrete Deformations
- Concrete Cracking
- Concrete Joint Distress
- Concrete Surface Distress
Concrete Deformations

- Buckles
- Durability Cracking
- Faulting

Deformations – Buckles

Non-compressible Material
Deformations – Buckles

Deformations – Buckling (Tenting)
Deformations – Buckles

Deformations – Durability Crack
Deformations – Durability Crack

Deformations – Faulting
Deformations – Faulting

Concrete Deformations

Deformations – Faulting

Concrete Deformations
Concrete Cracking

Transverse  Meander  Corner

Concrete Cracking – Transverse
Concrete Cracking - Transverse

Concrete Cracking - Meander
<table>
<thead>
<tr>
<th>Concrete Cracking - Meander</th>
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<tr>
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<table>
<thead>
<tr>
<th>Settlement – Utility Trench</th>
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<tbody>
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<td><img src="image" alt="Settlement Image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Concrete Cracking</th>
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</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Settlement – Utility Trench

Concrete Cracking

Meander Crack – New Construction

Concrete Cracking
Concrete Cracking – Corner Break

Concrete Cracking – Slab Curling / Corner Break
Concrete Cracking – Slab Curling / Corner Break

Concrete Joint Distress
Typical Concrete Joint

Joint Distress - Spalling
Cause of Joint Spall – Incompressible Materials

Partial Depth Joint Repair
Partial Depth Joint Repair

Full Depth Needed
Full Depth Joint Repair

Full Depth Joint Repairs
Joint Distress – Spalling

First Sign
Joint Distress – Spalling

Concrete Joint Distress

Severe

Concrete Surface Distresses

Shallow Steel  Scaling  Pop-out

Map Cracking  Polishing

Concrete Surface Distress
Surface Distress – Shallow Reinforcement

Concrete Surface Distress

Corrosion
Surface Distress – Shallow Reinforcement

Concrete Surface Distress

Surface Distress – Shallow Reinforcement

Concrete Surface Distress
Surface Distress – Shallow Reinforcement

Surface Distress – Scaling
Surface Distress - Scaling

Surface Distress – Scaling

Concrete Surface Distress

- < 25%
- 25% to 50%
- > 50%
Surface Distress – Pop Outs
Surface Distress – Map Cracking

Surface Distress – Polishing

Concrete Surface Distress

Moderate
Surface Distress – Polishing

Sealcoat Pavements

Michigan Sealcoat Rating Guide
Chip Seal Pavement

Chip Seal on HMA
Sealcoat Pavement Close Up

Gravel Base

Asphalt vs. Sealcoat

Sealcoat

Hot Mix Asphalt
Sealcoat Distress Types

- Edge Distress
- Lane Distress
- Raveling

Edge Distress

- Sealcoat
- Gravel Base
- Sand Sub-Base
Edge Distress Progression

Edge Distress Progression
Edge Distress

Lane Cracking
Raveling

Percent of Worst Lane

Rutting

Depth in Inches
### Upcoming Trainings & Final Thoughts

<table>
<thead>
<tr>
<th>Pavement Distress</th>
<th>TAMC Council Update, Intro to Data Collection &amp; Rating Rules</th>
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<td>June 16</td>
<td>June 17</td>
</tr>
</tbody>
</table>

**IBR Training – March 2\(^{nd}\), April 22\(^{nd}\), June 22\(^{nd}\)**

- Safety when Rating
- Review PASER Manuals prior to next training
- Complete Evaluation
PASER Training

Part 2: Pavement Rating
Introduction and Council Update

TAMC Data Collection Training Program

PASER for Paved Roads
Part 1: Distress Identification
Part 2: Pavement Rating Intro & Council Update
Part 3: Rating and Data Collection Rules
Part 4: Rating Exercises

Inventory-Based Rating for Gravel Roads

See ctt.mtu.edu for upcoming trainings
PASER Training Part 2 Agenda

Rating System Overview
Rating Demonstration
Reasons to Rate Roads

Overview of Rating Systems
that are used to rate pavements
Road Rating Systems

There are many systems available

<table>
<thead>
<tr>
<th>PASER</th>
<th>International Roughness Index</th>
<th>Pavement Condition Index</th>
<th>Present Serviceability Index</th>
</tr>
</thead>
</table>

Some are end of life measures

![Image of a road with potholes]
Estimates or very accurate measurements

What is the circumference of the earth at the equator?

A 25,000 mi
B 24,900 mi
C 24,901.461 mi

Only collect “decision making” data!

Data should:

• Evaluate outcomes
• Direct decisions
• Convey information
• Tell your story
PASER is a visual inspection system

Determine Distress:

- **Type**: What is it?
- **Extent**: How much?
- **Severity**: How bad?

PASER Estimating

- Segments are not consistent
- Rate overall condition
- Ignore isolated distresses
- All distresses may not be there
- Split segments with caution
Rating Demonstration

of using PASER on an actual segment
What were the distresses?

- Edge Distress
- Transverse Cracks
- Block Cracking
- Alligator Cracking
- Rutting

How should this segment be rated?
Using PASER

PASER is a visual system
Rate the most consistent condition
All distresses may not be present

Reasons to Rate Roads
and what you can do with the data
Why is TAMC Rating Roads?

Foundations of Road Rating in Michigan

• PA 499 (2002)
  • All public roads in Michigan will be managed using the principles of asset management.
  • Created Transportation Asset Management Council (TAMC)
• PA 199 (2007)
  • TAMC shall develop a pavement management system.
  • MDOT and LA reporting to the council is mandatory
    • Road and Bridge condition
    • 3 year project plan
    • Expenditures
Public Act 325 of 2018

- Creation of the Michigan Infrastructure Council (MIC) and the Water Asset Management Council (WAMC)

- TAMC is now under the MIC

- Promote and oversee the recommendations from the regional infrastructure asset management pilot

- TAMC shall advise the MIC on culverts and traffic signals

- Asset Management Plans required after October 1, 2020 for agencies with over 100 certified lane miles

TAMC’s Mission

- Support excellence in managing Michigan’s Transportation assets by:
  - Advising the Legislature and State Transportation Commission
  - Promoting asset management principles
  - Providing tools and practices for road agencies
Why Should You Rate Roads?

See how road condition is changing

**Surface Condition Trend**
Why Should You Rate Roads?

Estimate future road conditions

Why Should You Rate Roads?

Measure effectiveness of past improvements
Why Should You Rate Roads?

Determine What, Where and When improvements are needed

Check Your Knowledge

How do you think Michigan’s Federal-aid-eligible roads rate?

A  Good
B  Fair
C  Poor
Michigan’s Federal Aid Eligible Roads
2004-2019

Cost Effectiveness of Treatments
**Initial Construction Cost**

- Crack Seal: $4,000
- Chip Seal: $25,000
- Mill & Fill: $100,000
- Crush & Shape: $225,000
- Reconstruct: $375,000

**Expected Treatment Life in Years**

- Crack Seal: 1 year
- Chip Seal: 5 years
- Mill & Fill: 10 years
- Crush & Shape: 14 years
- Reconstruct: 15 years
Rating Roads in Michigan

TAMC uses PASER for Asphalt and Concrete
MI Specific Sealcoat Guide for Sealcoat
Inventory-Based Rating System™ for Unpaved
TAMC Data Collection Training Program

**PASER for Paved Roads**
Part 1: Distress Identification  
Part 2: Pavement Rating Intro & Council Update  
Part 3: Rating and Data Collection Rules  
Part 4: Rating Exercises

**Inventory-Based Rating for Gravel Roads**

See ctt.mtu.edu for upcoming trainings
PASER Training Part 3 Agenda

- Business Rules
- Rules for Rating
- Rating Tips
- Collection Reminders

Business Rules

when collecting data for TAMC’s data collection effort
Reporting Data: TAMC Data Collection


Reporting Data: Tale of Two Data Collections

- TAMC federal-aid data collection

- Non-federal-aid data collection
  - Agency decides what to collect
  - Agency must get approval first to be eligible for reimbursement
  - Agency rater does agency’s own roads
Reporting Data: What to Rate

Federal-aid network

• Rate 100% of federal-aid-eligible roads for 2021 (paved and unpaved)

Reporting Data: How to Rate

Tools

• Roadsoft and the Laptop Data Collector
  • Roadsoft 2021.X*
  • Roadsoft LDC 2021.X*
  • GPS
  • Framework version 20

*where X = latest version
## Reporting Data: How to Rate

### Table: Reporting Data

<table>
<thead>
<tr>
<th>Group</th>
<th>Field</th>
<th>Operator</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Federal-aid</td>
<td>=</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Reporting Data: When to Collect & Submit

First Monday in APRIL
Begin collection

Last Friday in NOVEMBER
Complete collection

First Friday in DECEMBER
Submit data to CSS

Reporting Data: Funding

• Agencies report time and expenses through planning organization (PO)

• PO reports to the TAMC
  • Use TAMC Expense Log

Example
Reporting Data: Required Information

• Crew first and last names
• Surface type
• Number of lanes
• PASER number/IBR score

Federal-aid Data Collection

(need two team members)

• Local Agency
• PO (RPO/MPO)

Non-federal-aid Data Collection*

• Local Agency

• All team members must be trained
• Team members may designate others as their representative
• Two person team must represent different agencies
• Collection Policy is in the TAMC Data Collection Manual Appendix F

* NFA agencies approved for TAMC reimbursement shall consist of a minimum of two.
Reporting Data: Training Requirements

PASER

• Trained or Certified in 2018, 2019, 2020
• Trained in 2021

IBR

• Need to have been trained within 3 years of data collection


Reporting Data: Non-federal-aid data

• The TAMC needs properly tagged data
• The TAMC may reimburse collection
• Follow the manual!

LDC: Surface Type

Checking Number of Lanes
Rules for Rating
effectively and consistently

Pavement Types
Check Your Knowledge

A. Asphalt
B. Concrete
C. Composite
D. Sealcoat
E. Brick

Options A through E are shown, with each corresponding to a layer in a pavement structure:

1. Asphalt
2. Gravel Base
3. Sand Sub-Base
4. Native Soil (sub grade)

The question asks to select the correct layer for each option.
Check Your Knowledge

A. Asphalt
B. Concrete
C. Composite
D. Sealcoat
E. Brick

Concrete Pavement
Gravel Base
Native Soil (sub grade)
Brick and Gravel

Rate Distress Not Ride
Rate Distress Not Importance

Which Lane To Rate?
Which Pavement Type to Rate?

Asphalt

Seal Coat
What if the Road is Under Construction?

How Many Lanes?
Report as two lanes

Agree or Disagree

Report as 3 lanes

Agree or Disagree
Report as 2 lanes

Agree or Disagree

How do you rate after a new seal coat?

Before

After
Ghost cracks influence ratings.

Agree or Disagree

Rating Tips
for using visual distress rating systems
**Driving**

Drive the segment again if needed

Slow down

---

**Team Rating minus QC Rating**

2019 Team Ratings Minus Quality Ratings
Weighted by Lane Miles

Team ratings lower than QR

Team ratings higher than QR

Mean .35
Into The Sun

Into The Sun
Same Location – Different Perspective

Sun Behind

Sun in Front

What About These?
Tree Shade

Wet Pavement
Light Colored Pavement

These cracks influence the rating.

Agree or Disagree
Paved Shoulders

Asphalt
Gravel Base
Sand Sub-Base
Native Soil

Collection Reminders
when collecting data for TAMC’s data collection effort
Data Collection Policy

**PASER**
Trained or Certified in 2018, 2019, 2020
Trained in 2021

**IBR**
Need to have been trained within 3 years of data collection


---

Training & Data Collection Effort Is Funded

**Rating Team:** PO & County/City/Village

**TAMC Coordinator**

**MPO or RPO (rating team)**

Time Logs
Reimbursement

---
Rating Team Reminders

**Federal Aid**
2 Member Team:
- Local Agency
- PO (RPO/MPO)

- All team members must be trained
- Team members may designate others as their representative
- Two person team must represent different agencies
- Collection Policy is in the TAMC Data Collection Manual Appendix F

* NFA agencies approved for TAMC reimbursement shall consist of a minimum of two.

**Non Federal Aid**
Local Agency

TAMC Coordinator Assists With:

- Reimbursement Certification
- Data collection policy
- Reporting requirements

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BelknapR@michigan.gov

Dave Jennett,
TAMC Transportation Planner
Ph: (517) 335-4583
JennettD@michigan.gov
Collection Important Dates

First Monday of April
Start collecting (weather permitting)

Last Friday of November
Last day to collect

First Friday of December
Last day RPO/MPO to submit to CSS

Rater Certification Test

- Not required
- Relief from webinar & on-site training next 3 years
- Experience and training prior to 2019 required
- Pre-registration required

*Suspended for 2021*
Final Polls

Implementation Survey
Evaluation

Upcoming Trainings & Final Thoughts

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IBR Training – March 2\textsuperscript{nd}, April 22\textsuperscript{nd}, June 22\textsuperscript{nd}

Safety when Rating

Review PASER Manuals prior to next training
PASER Training
Part 4: Rating Exercises

TAMC Data Collection Training Program

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Inventory-Based Rating for Gravel Roads

See ctt.mtu.edu for upcoming trainings
PASER Training Part 4 Agenda

Rating Segment Example
Asphalt Scale and Exercises
Concrete Scale and Exercises
Seal Coat Scale and Exercises
Final Reminders

Rating Segment Example

1 6 11 12 13 14
10 7 8 9 4 3 2
What were the distresses?

Edge Distress  Transverse Cracks
Block Cracking  Alligator Cracking
Rutting

How should this segment be rated?
Asphalt Cheat Sheet

Asphalt PASER

No defects

Less than one year old
Crush & Shape - A treatment is considered a reconstruct only if the base material is replaced or rehabilitated.

9
Like New

8
T-Cracks > 40’
Proactive Sealcoat Treatments

Asphalt 8
- Occasional transverse crack >40’ apart
- Crack width tight (hairline) or sealed
  Few if any longitudinal cracks on joints
Recent seal coat or slurry seal (*see below)
Little or no maintenance required

T-Cracks 10’-40’
T-Cracks < 10’

Secondary Cracks
Wheel Path Cracking

Rutting: 
- ½” – 1” Blocks: < 1’

Alligator cracking 1st signs, <25%
2/24/2021

2
Alligator Cracking > 25%

1
Same as 2 visible base
Asphalt Repair Techniques

- New construction
- Reconstruction
- Crush and shape
- Micro Surface / Slurry seal
- Seal coat
- Wedging
- Crack seal

New Construction
Reconstruction

Crush and Shape
Micro Surface / Slurry Seal

Seal Coat
Wedging

Crack Seal
Is This Edge Cracking?

A
Yes

B
No

Is This Edge Cracking?

A
Yes

B
No
Is This Edge Cracking?

A  Yes

B  No
<table>
<thead>
<tr>
<th>Rate</th>
<th>Wheel/Edge</th>
<th>Ruts</th>
<th>Alligator</th>
<th>Trans</th>
<th>Long</th>
<th>Block</th>
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<td>Yes</td>
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Rate

Wheel/Edge Ruts
No
No
No
Yes
Yes
Yes

Alligator Trans
No
No
Yes
Yes
Yes

Long Block
No
Yes
Yes
Yes
Yes
Yes
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<tr>
<th>Rate</th>
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<th>Alligator</th>
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</table>
Concrete Cheat Sheet

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>- No spalling or honeycombing</td>
</tr>
<tr>
<td></td>
<td>- No cracks or spalling</td>
</tr>
<tr>
<td></td>
<td>- No deformation or subluxation</td>
</tr>
<tr>
<td>Poor</td>
<td>- Spalling or honeycombing</td>
</tr>
<tr>
<td></td>
<td>- Cracks or spalling</td>
</tr>
<tr>
<td></td>
<td>- Deformation or subluxation</td>
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</table>

Concrete PASER

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<tr>
<td></td>
<td>- Deformation or subluxation</td>
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</tbody>
</table>
No

No

No

Joint rehab completed and no other defects

Like New

No defects

Less than one year old
<table>
<thead>
<tr>
<th>Joints</th>
<th>Partial loss of sealant</th>
<th>No transverse</th>
<th>Isolated meander</th>
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</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Isolated transverse</th>
<th>Full depth repairs are excellent</th>
<th>Minor scaling</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
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</table>
Joints and cracks open ¼”
Scaling < 25% of surface

Faulting < ¼”
First signs of spalling
Scaling 25% to 50% of surface
Faulting < \( \frac{1}{2} \)"
Severe joint/crack spalling
Multiple cracks

Faulting < 1"
D-Cracking
Many open joints/cracks
2/24/2021

Rebuild pavement

Restricted speeds
What Repair is Needed?

A  Partial Depth
B  Full Depth

Partial Depth Repair
What Repair is Needed?

A Partial Depth
B Full Depth

Full Depth Repair
Looking North

Looking South
<table>
<thead>
<tr>
<th>Rate</th>
<th>Partial Depth Seal</th>
<th>Full Depth Surface Repair</th>
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</thead>
<tbody>
<tr>
<td>No</td>
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<tr>
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</table>

Looking East
Rate

Partial Depth Seal

Full Depth Surface Repair

No  Yes  No  No

Looking South
Looking North

Partial Depth Seal

Rate

Full Depth Surface Repair

No Yes Yes Yes
<table>
<thead>
<tr>
<th>Partial Depth Seal</th>
<th>Full Depth Surface Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Rate:
Sealcoat Cheat Sheet
### Seal Coat - Good

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>New construction</td>
</tr>
<tr>
<td>9</td>
<td>Like new</td>
</tr>
<tr>
<td>8</td>
<td>First signs of distress</td>
</tr>
</tbody>
</table>

- Less than one year old
- More than one year old
- Limited edge distress

### Seal Coat - Fair

Edge distress, or Lane Distress, or Raveling

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Less than 5%</td>
</tr>
<tr>
<td>6</td>
<td>Up to 10%</td>
</tr>
<tr>
<td>5</td>
<td>Up to 20%</td>
</tr>
</tbody>
</table>

- Less than 5%
- Up to 10%
- Up to 20%
Seal Coat - Poor
Edge distress, or Lane Distress, or Rutting

- **4**
  - Up to 30%
  - Ruts ½” to 1”

- **3**
  - Up to 50%
  - Ruts 1” to 2”

- **2**
  - Over 50%
  - Ruts over 2”

- **1**
  - Same as 2 with visible base

![None](image)
Upcoming Trainings & Final Thoughts

<table>
<thead>
<tr>
<th>Pavement Distress</th>
<th>TAMC Council Update, Intro to Data Collection &amp; Rating Rules</th>
<th>Rating Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 23</td>
<td>February 24</td>
<td>February 25</td>
</tr>
<tr>
<td>April 13</td>
<td>April 14</td>
<td>April 15</td>
</tr>
<tr>
<td>June 15</td>
<td>June 16</td>
<td>June 17</td>
</tr>
</tbody>
</table>

IBR Training – March 2\(^{nd}\), April 22\(^{nd}\), June 22\(^{nd}\)

Safety when Rating

Review PASER Manuals prior to next training

Complete Evaluation