



2021 Pavement Condition Index (PCI) Surveys

Presented by:

Brad Remmich, South Dakota Office of Aeronautics

Karen Schaefers, Helms & Associates

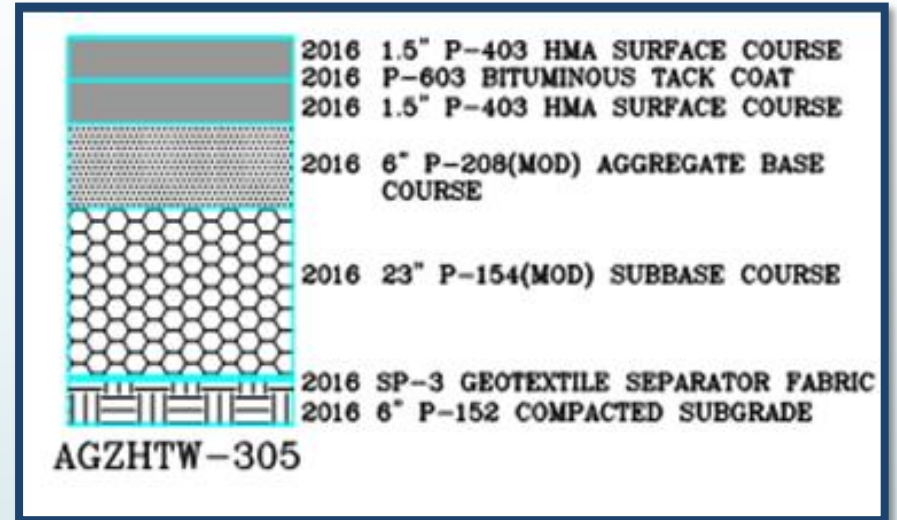
Overview

- ❖ Introduction to PCI
- ❖ Pavement Management System
- ❖ Next Steps
- ❖ Questions

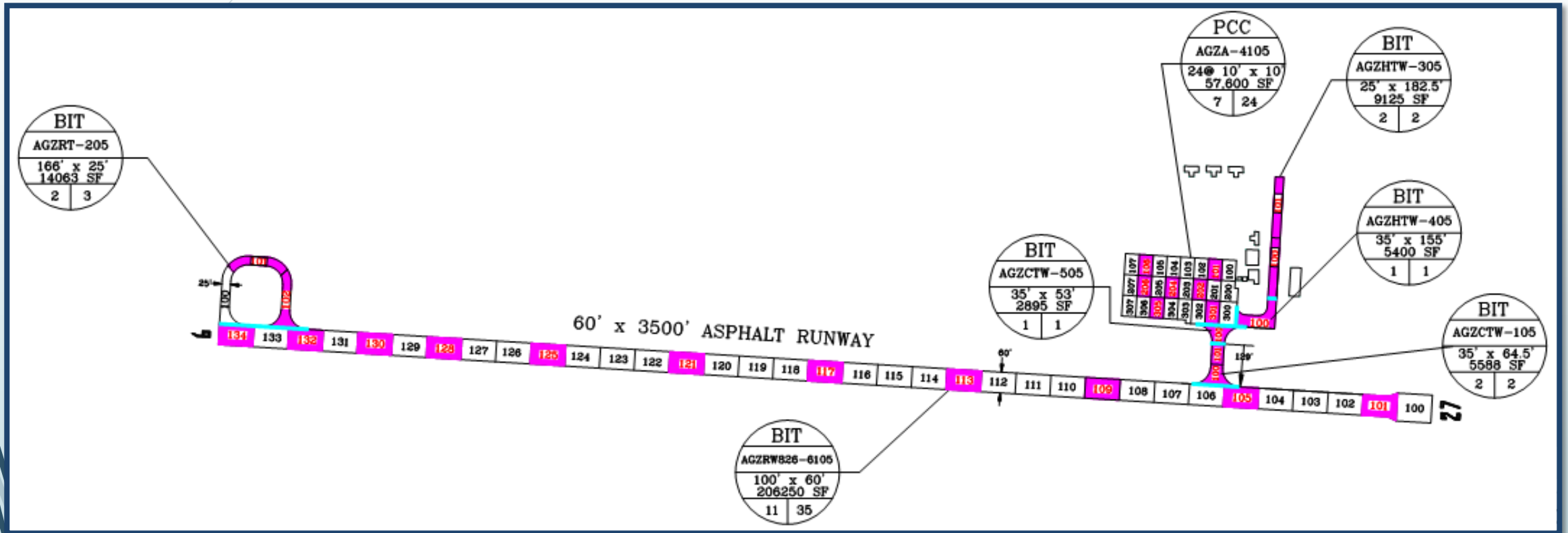


Introduction to PCI

- ❖ Performed every three years
- ❖ As-builts & Records Review – Feature Maps
- ❖ Pavement Distresses



Feature Map



Asphalt Pavement Distresses

- ❖ Longitudinal & Transverse Cracking
- ❖ Alligator Cracking
- ❖ Patching
- ❖ Weathering
- ❖ Depression



Concrete Pavement Distresses

- ❖ Joint Seal Damage
- ❖ Cracks
- ❖ Spalling Joint
- ❖ Spalling Corner
- ❖ Patching, Small
- ❖ Durability Cracking



Pavement Condition Index (PCI) Method

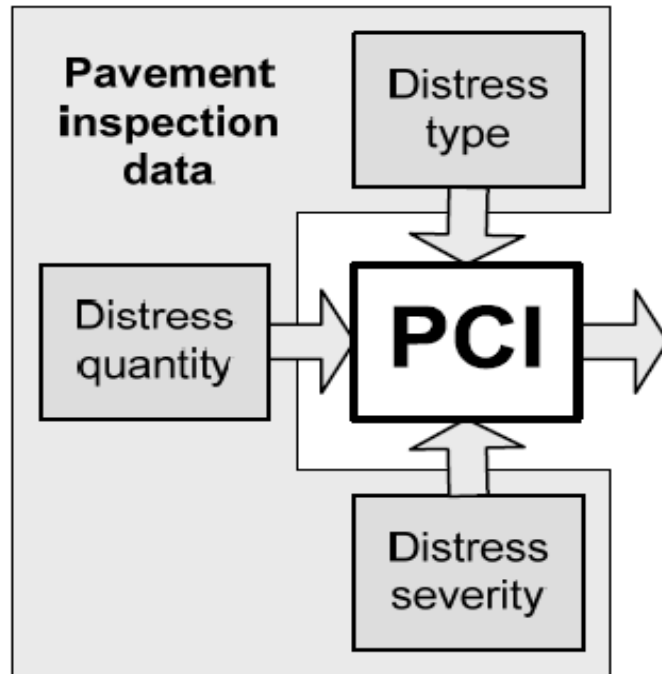


FIG. 1 Pavement Condition Index (PCI), Rating Scale, and Suggested Colors

Project vs Network Level Pavement Management

	Network Level	Project Level
Condition	PCI	PCI, NDT, etc.
Level of Inspection	Less Sample Units	More Sample Units
Maintenance & Repair (M&R)	'Level' of M&R	'Type' of M&R

Pavement Maintenance Cost & Pavement Condition

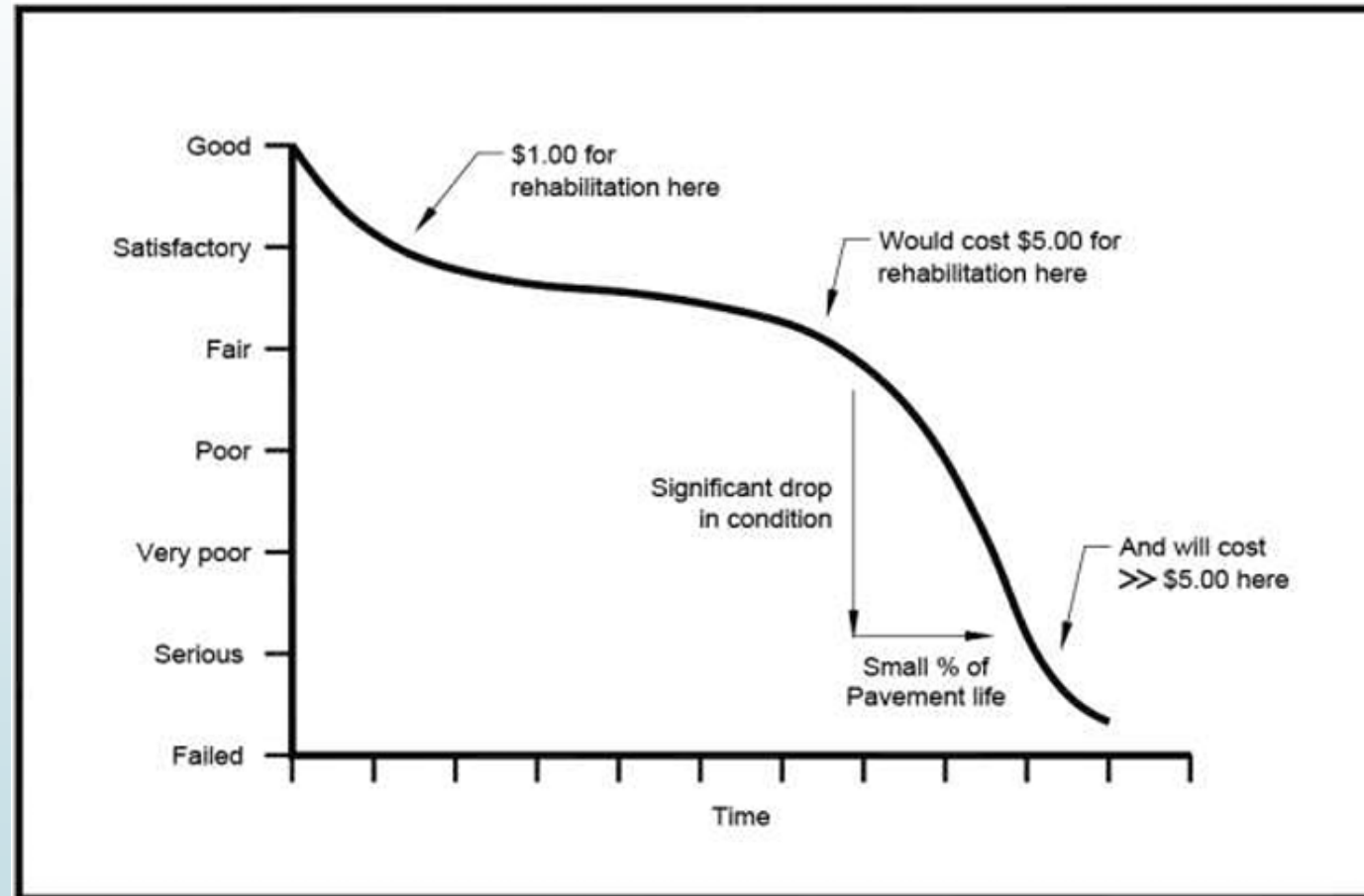


Figure 1. Typical Pavement Condition Life Cycle.

Pavement Preservation Concept

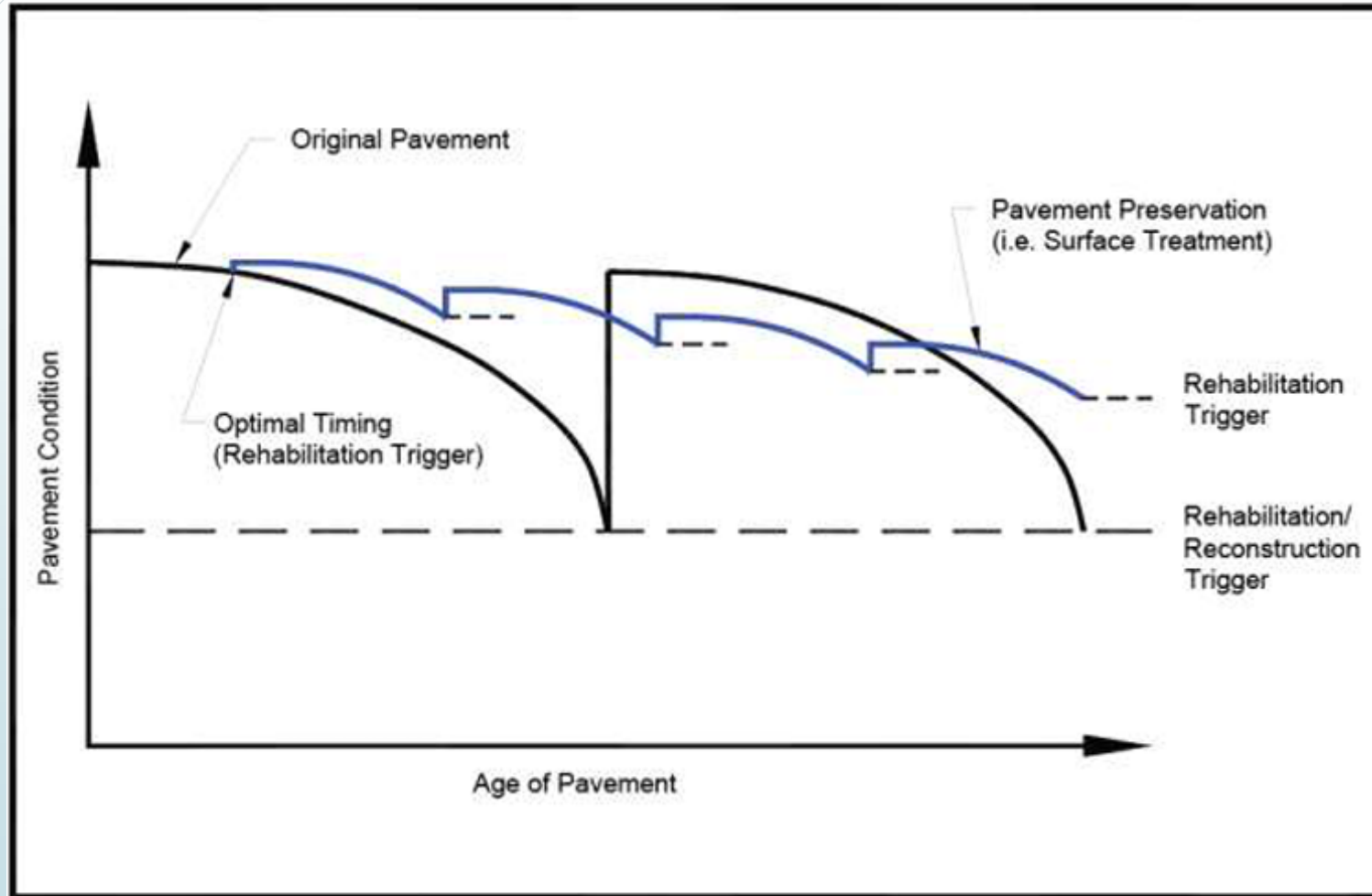


Figure 2. Pavement Preservation Concept.

Pavement Management Software - PAVER™

- ❖ Pavement Network Inventory
- ❖ Pavement Condition Rating
- ❖ Develop Models to Predict Future Conditions
- ❖ Report on Past & Future Pavement Performance
- ❖ Determination of Maintenance & Repair (M&R) Needs Based on Budget or Condition Requirements
- ❖ Plan Projects



M&R Recommendations

❖ Localized Maintenance:

- ❖ Route & Seal Cracks (AC)
- ❖ Crack Leveling (AC)
- ❖ Partial/Full Depth AC Patch

- ❖ Grinding (PCC)
- ❖ Silicone Joint Seal Replacement (PCC)
- ❖ Partial/Full Depth PCC Patch
- ❖ Slab Replacement (PCC)
- ❖ Spall Repair (PCC)
- ❖ Saw & Seal Crack (PCC)

❖ Global Maintenance:

- ❖ Microsurfacing (AC)
- ❖ Emulsified Seal Coat (AC)
- ❖ Fog Seal (AC)

M&R and PCI

Section	Material	Age	2012 PCI	2015 PCI	2018 PCI	2021 PCI
Taxilane	Asphalt	1999	88	76	55	57

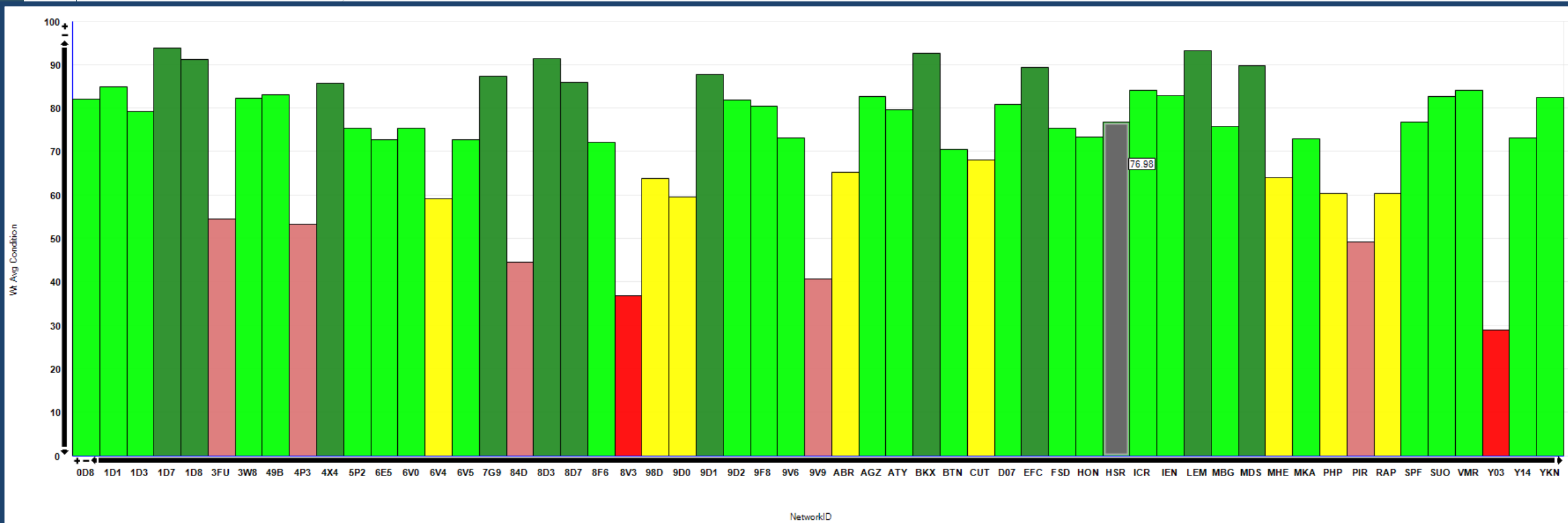
Section	Material	Age	2012 PCI	2015 PCI	2018 PCI	2021 PCI
Runway	Asphalt	2008	87	72	55	69

Section	Material	Age	2012 PCI	2015 PCI	2018 PCI	2021 PCI
Taxilane	Concrete	2010	100	94	86	90

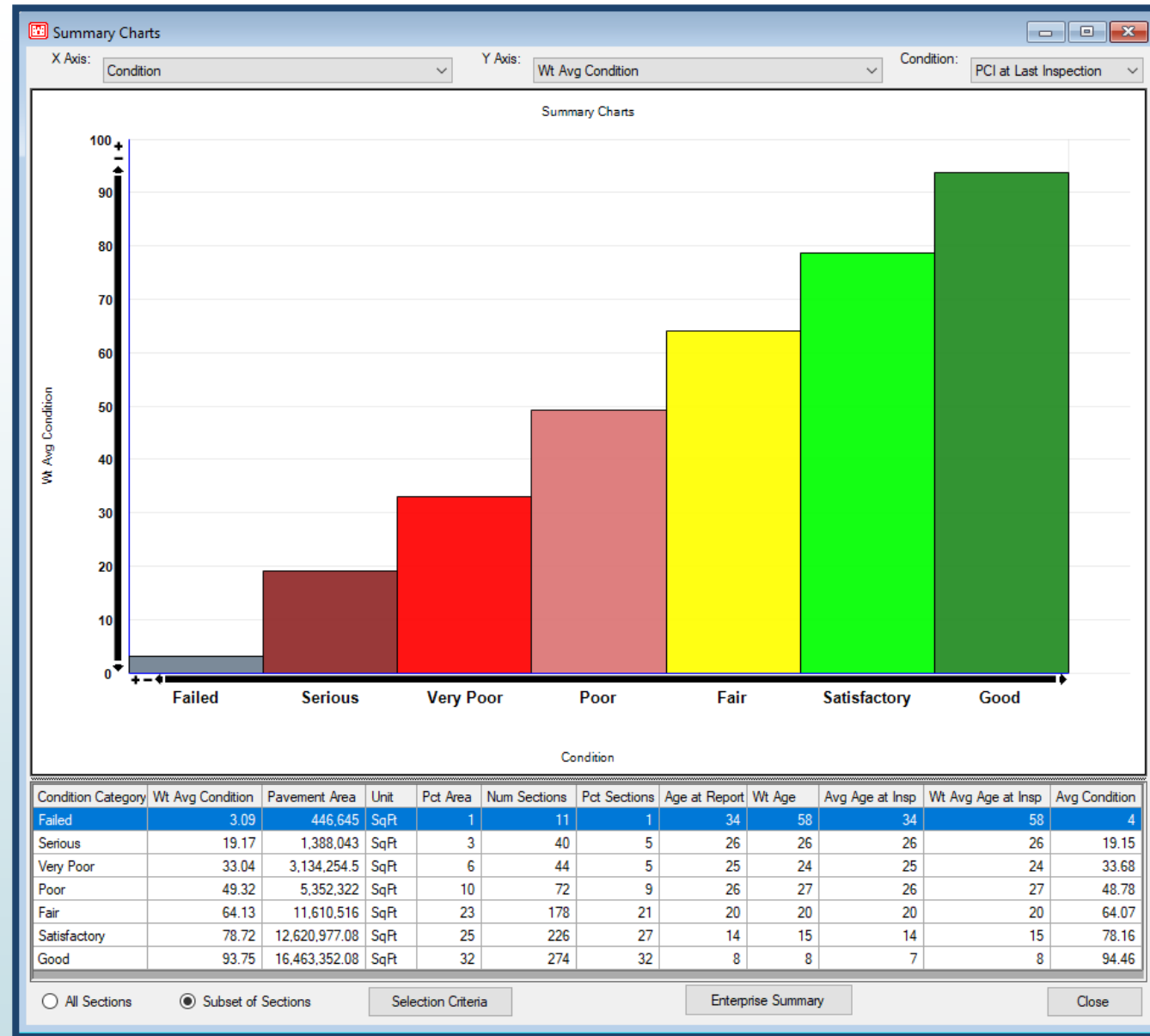
PCI Categories

PCI CATEGORY	LOW VALUE	HIGH VALUE	COLOR
Good	86	100	Green
Satisfactory	71	85	Light Green
Fair	56	70	Yellow
Poor	41	55	Light Red
Very Poor	26	40	Red
Serious	11	25	Dark Red
Failed	0	10	Black

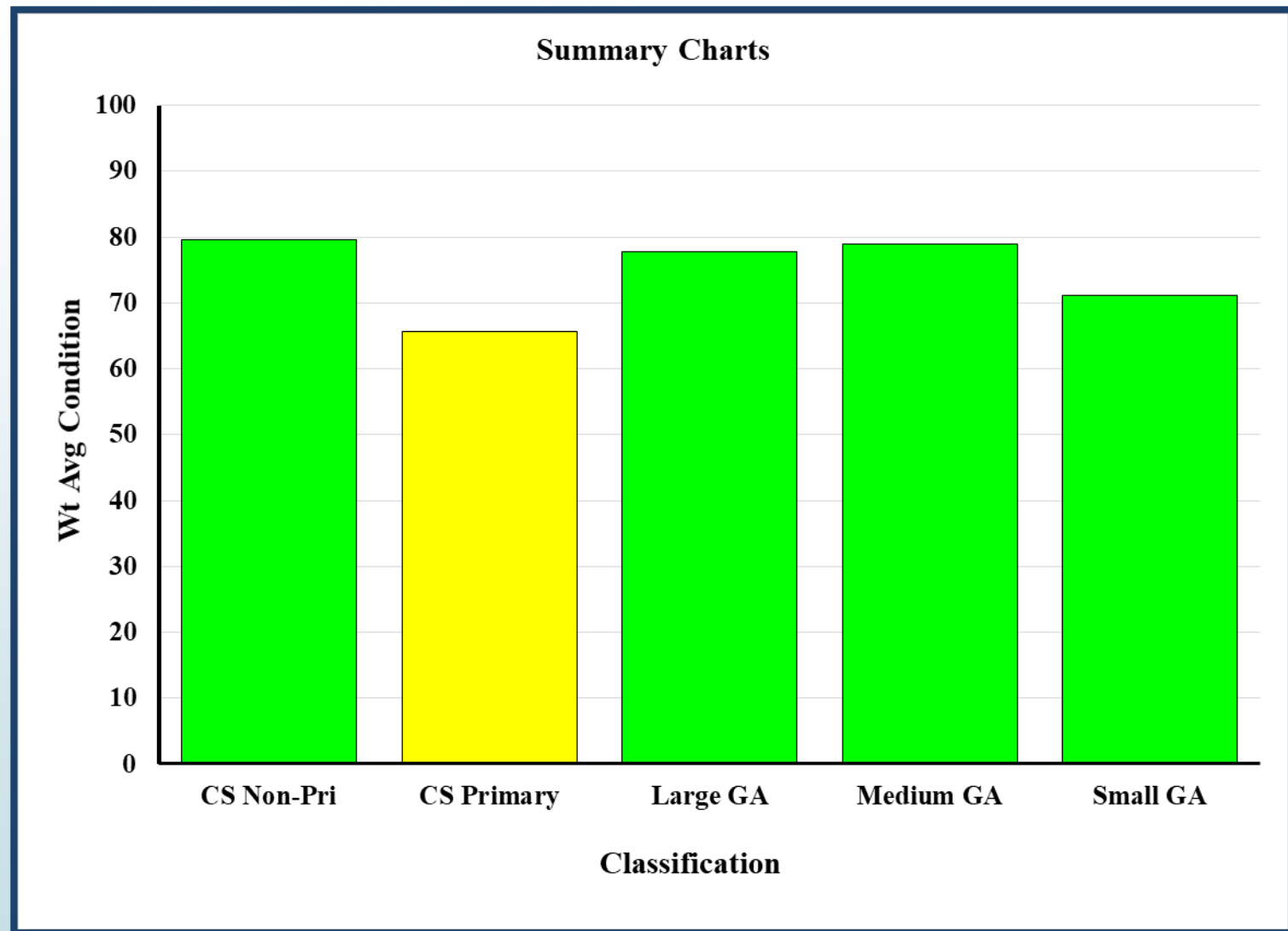
Weighted Average PCI By Network



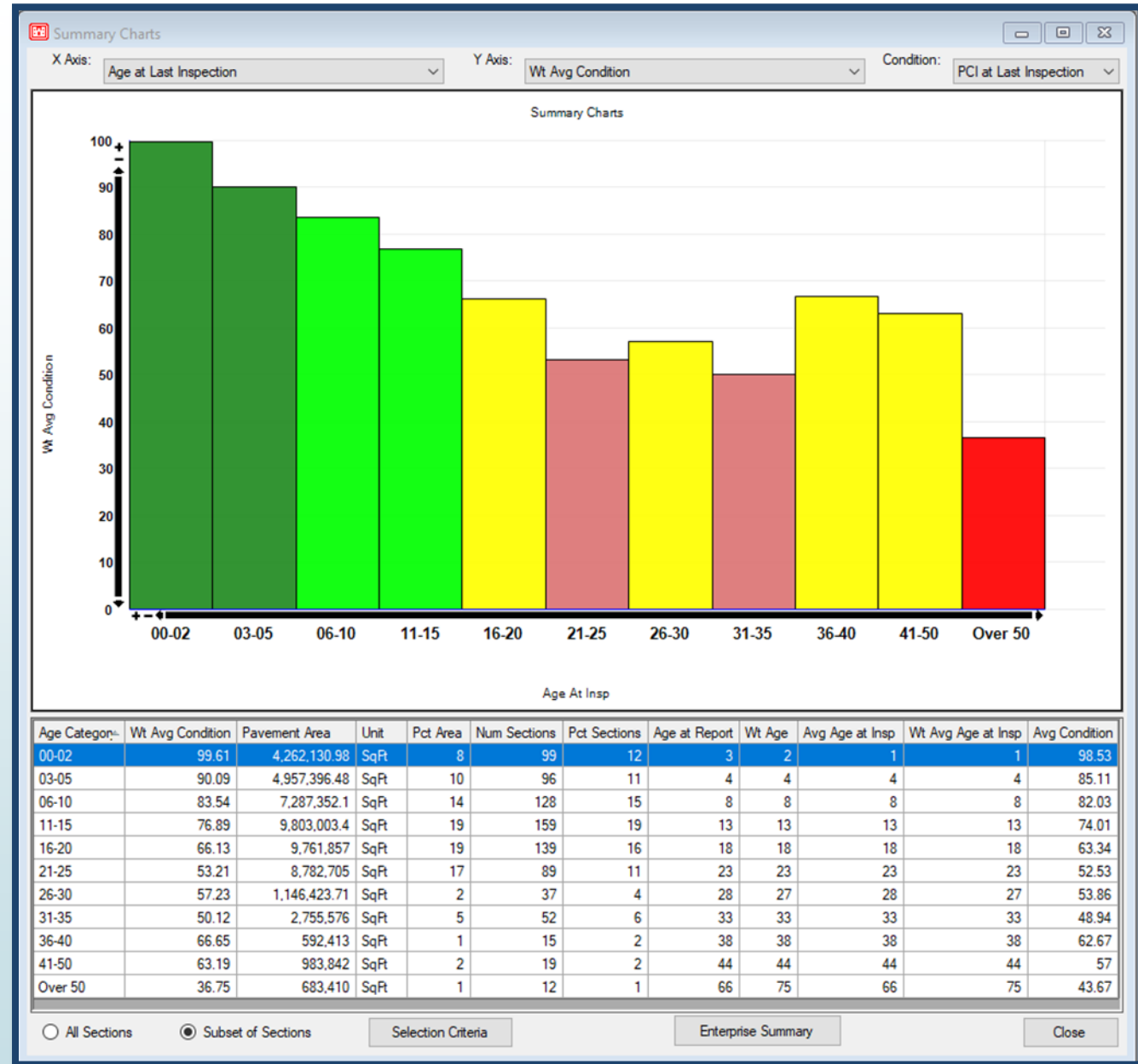
Weighted Average PCI By Pavement Condition Category



Weighted Average PCI By Airport Classification



Weighted Average PCI By Age at Last Inspection





Next Steps

- ❖ Distribute PCI Maps to Sponsors
- ❖ Meet with Sponsors & Consultants
- ❖ Budget Pavement Maintenance in CIPs

Questions?

