Pavement Condition Report

Terre Haute International Airport

Project 16801839

Prepared for:
Indiana Department of Transportation
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January 2016

Executive Summary

Background

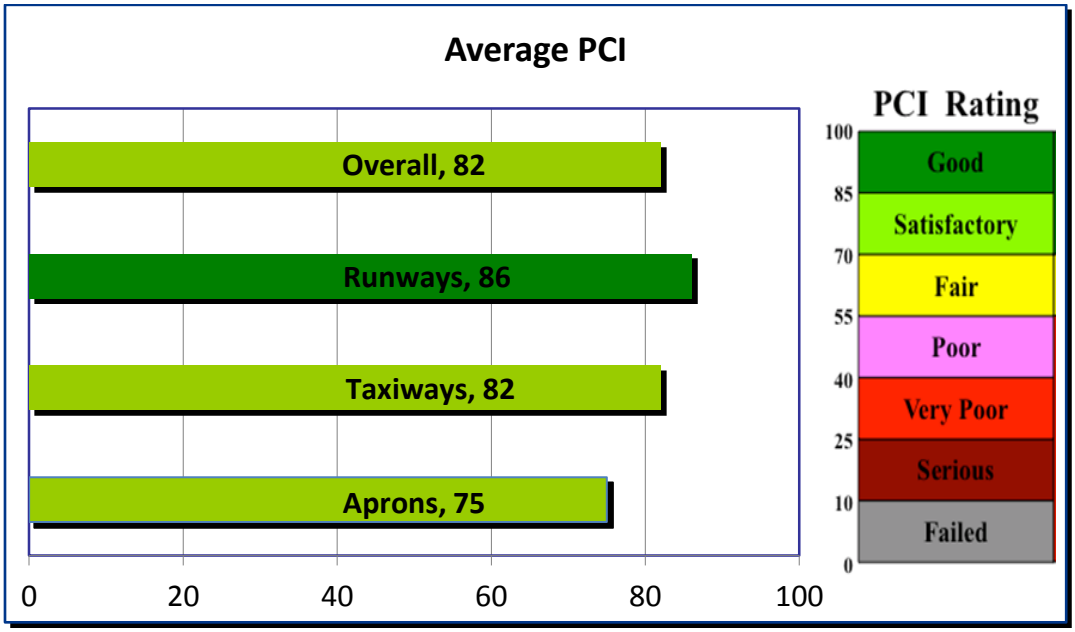
Since 1995, airports have been required to implement a pavement maintenance-management program to receive funding for any project constructed using Federal money. To assist individual airports in meeting this requirement and help improve airport pavement conditions statewide, the Indiana Department of Transportation, Office of Aviation contracted with Applied Research Associates, Inc. to provide pavement evaluation surveys at local airports. This report documents pavement condition at Terre Haute International Airport in September 2015.

A primary objective of the pavement management program is to determine maintenance and rehabilitation needs by comparing pavement condition to a standardized benchmark called the minimum service level (MSL), defined as the minimum pavement condition acceptable in managing Indiana's airfield pavements. The benchmark MSL values used to trigger rehabilitation are shown below.

Runway	Taxiway	Apron
65	60	60

Pavement Condition

The average inspected Pavement Condition Index (PCI) for all the airfield pavements was 82. Runways had an average inspected PCI of 86 and were above the desired MSL of 65. Taxiways had an average inspected PCI of 82, and ramps had an average inspected PCI of 75.



Capital Improvement Program

The table below provides a summary of the projected pavement rehabilitation needs for the next 5 years of the capital improvement program, starting in 2016. The estimated cost for the rehabilitation actions that provide the greatest increase in pavement service life is approximately $5.1 million in 2016 dollars. If no action is taken, the overall PCI is projected to drop from 82 to 73 by 2020.

Project Year	Calendar Year	Amount
Year 1	2016	4,427,823
Year 2	2017	-
Year 3	2018	-
Year 4	2019	-
Year 5	2020	708,596
	5-Year Total	**5,136,419**

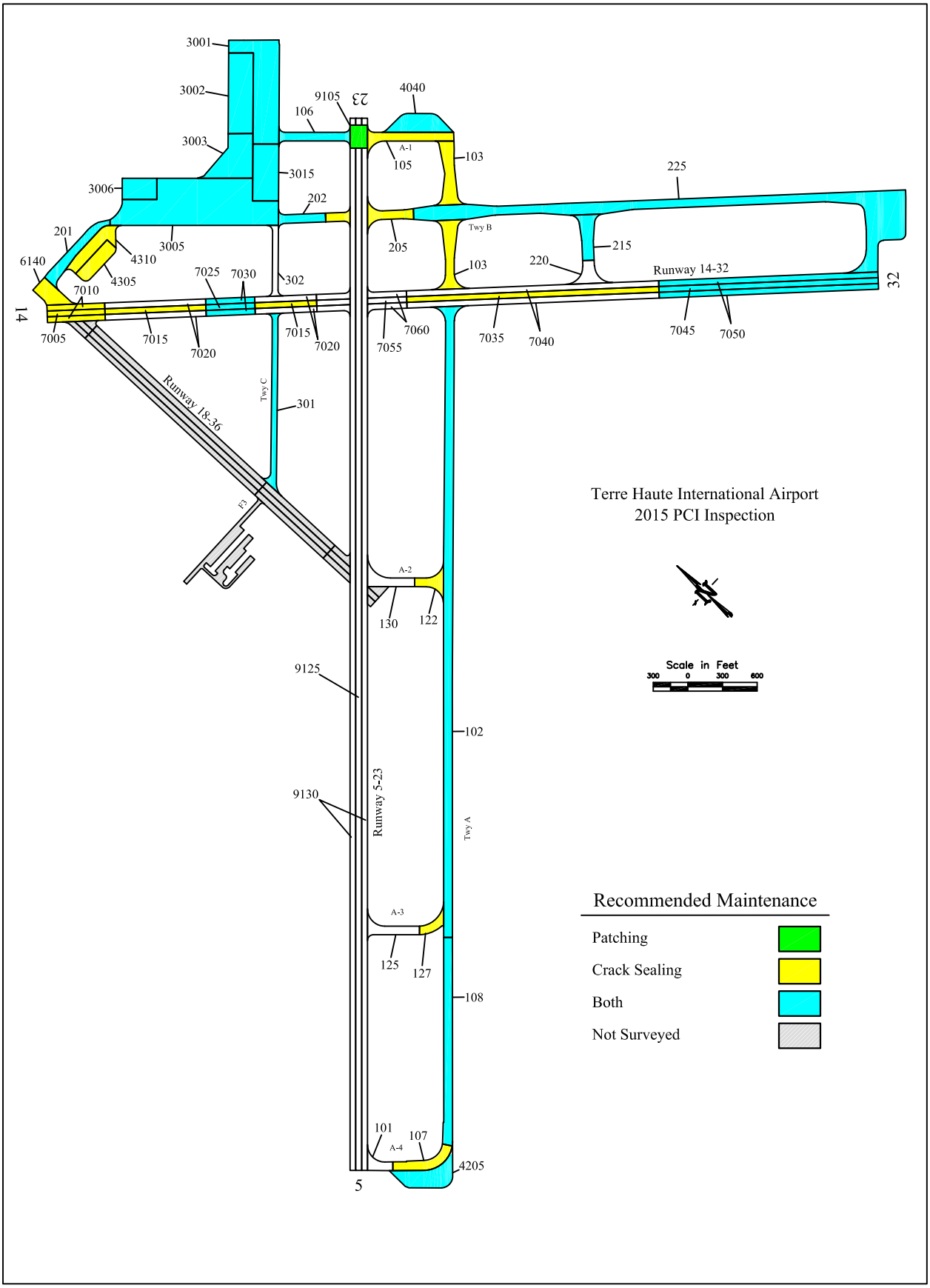
Maintenance

Analysis of potential maintenance projects identified approximately 18,000 square feet of patching needs and approximately 312,000 linear feet of crack sealing and crack repair needs, at an estimated total cost of approximately $900,000.

Specific recommendations to help prioritize airfield maintenance are found in chapter 4 of this report. A summary of all identified maintenance needs is shown in the table below and in the figure on the following page.

Work Item	Quantity	Unit	Cost
AC PATCH	2,013	SF	$17,467
AC RESTORATIVE CRACK REPAIR	22,424	LF	$27,805
AC SUSTAINING CRACK REPAIR	4,174	LF	$3,612
PCC PATCH	1,935	SF	$32,327
PCC RESTORATIVE CRACK REPAIR	285,451	LF	$640,373
PCC SLAB REPLACEMENT	14,128	SF	$176,422
Total:			**$898,006**

AC = asphalt concrete; PCC = portland cement concrete; S.F. = square feet; L.F. = linear feet


Terre Haute International Airport
2015 PCI Inspection
Scale in Feet
300 0 300 600
Recommended Maintenance
Patching
Crack Sealing
Both
Not Surveyed
Runway 14-32
Runway 18-36
Runway 5-23
Twy A
Twy B
Twy C
A-1
A-2
A-3
A-4
14
32
23
5
3001
3002
3003
3006
3015
9105
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103
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201
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7010
7025
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GLOSSARY OF ABBREVIATIONS

AC	-	asphalt concrete
AAC	-	asphalt overlay on existing asphalt
APC	-	asphalt overlay on existing concrete
APMS	-	airport pavement management system
ARA	-	Applied Research Associates, Inc.
CADD	-	computer-aided design and drafting
CIP	-	capital improvement program
FAA	-	Federal Aviation Administration
FOD	-	foreign object damage
GIS	-	geographic information system
INDOT	-	Indiana Department of Transportation
L&T	-	longitudinal and transverse
LTD	-	longitudinal, transverse, and diagonal
M&R	-	maintenance and rehabilitation
MSL	-	minimum service level
PCC	-	portland cement concrete
PCI	-	Pavement Condition Index
PCN	-	Pavement Classification Number
PDF	-	portable electronic document

1. Introduction

1.1 Objective and Scope

The Indiana Department of Transportation, Office of Aviation (INDOT) retained Applied Research Associates, Inc., (ARA) to provide airfield pavement inspection, pavement evaluation, and pavement management services for Indiana's statewide network of airfield pavements. The pavement evaluations documented in this report were performed under purchase order number 16801839.

A primary objective of INDOT's ongoing pavement evaluation and management program is to determine maintenance and rehabilitation (M&R) needs by comparing the Pavement Condition Index (PCI) to a standardized benchmark called the minimum service level (MSL). The MSL is defined as the minimum pavement condition acceptable in managing INDOT's airside pavement. The benchmark MSL values used to trigger rehabilitation vary by airport classification and are shown in Table 1-1.

Table 1-1. Minimum Service Levels

Facility	Primary	Commercial Service	Large GA > 3600'Rwy	Small GA < 3600'Rwy
Runway	70	65	60	55
Taxiway	65	60	55	50
Apron	65	60	55	50

Additional goals of this project were to implement a software program to manage the pavement network, develop performance curves based on historical rates of pavement deterioration, forecast future pavement conditions, identify and recommend specific M&R actions to address the root cause of the documented pavement distress, and estimate the cost and ideal timing of the recommend M&R. The following tasks were performed in support of the project goals:

- Review record documents
- Define the pavement network
- Conduct an airfield condition survey
- Update the AIRPAV database & software
- Develop a 5-year airfield M&R work plan
- Report findings to INDOT

1.2 Description of Tasks Performed

1.2.1 Records Review

A detailed records review was performed to determine the airport's construction history and the as-built cross section for each pavement feature. Plan sets for recent projects were provided to ARA in computer-aided design and drafting (CADD) format. Older plans sets were provided as hard copies or in portable electronic document (PDF) format.

1.2.2 Define Pavement Network

Prior to the field survey, a pavement network map was developed using available aerial photography and construction plans. The map was divided into facilities, features, and sample units. A facility is defined as a complete area of the airfield that is used for a particular type of operation. Facilities are typically named for complete functional elements of pavement, such as Runway 11-29, Taxiway A, or North Terminal Apron. After facilities are defined, they are divided into features based on pavement type, construction, structure, and usage. Note that the terms branch and section may be used interchangeably with facility and feature throughout this report.

Features are divided into sample units as prescribed by ASTM D5340-12, *Standard Test Method for Airport Pavement Condition Index Surveys*. A sample unit is a subdivision of a section used exclusively to aid in the inspection process and reduce the effort needed to determine distress quantities and the PCI. The specified sample unit size for an asphalt concrete (AC) pavement is 5,000 ft² ± 2,000 ft². Sample units on portland cement concrete (PCC) pavements contain 20 ± 8 slabs.

To allow users to search, sort, and identify airport pavement quickly, a numbering system is used in conjunction with the facility, feature, and sample unit convention. The format starts with facility, then feature, and finally identifies the sample unit. The number 1605.300 is parsed as an example in Figure 1-1. Most pavement references in this report are presented in this format.

Using statistical sampling methods, the PCI procedure provides a high confidence level in evaluating overall pavement condition while sampling only a portion of the pavement surface. Table 1-2 shows the network-level inspection density used on this project. Where appropriate, "additional sample units" were identified and inspected to record pavement areas with distress patterns not representative of the overall pavement condition. The unique distress types documented in additional sample units are not extrapolated across the entire feature.

As the surveyors inspected the pavement, they were mindful to ensure that the pre-survey airfield map depicted the actual pavement, otherwise known as a "ground-truth" survey. Noticeable differences between what was present in the field and what was displayed on the maps were adjusted by a CADD technician.

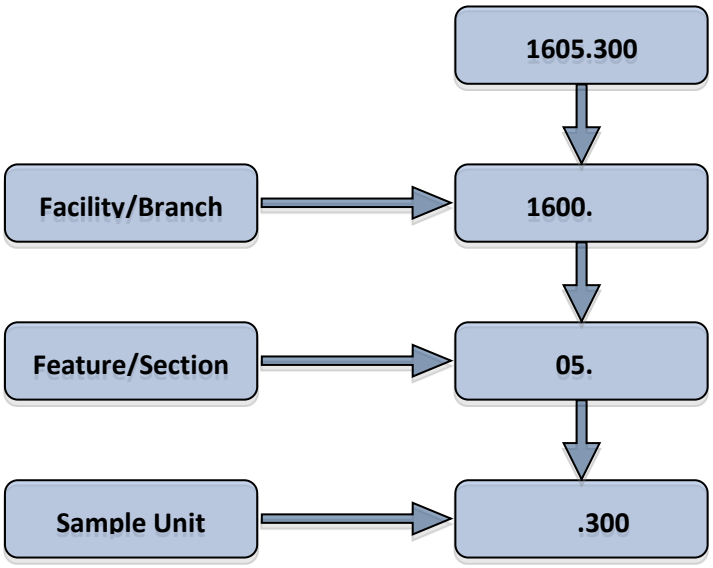

Figure 1-1. Pavement Numbering System

Table 1-2. Inspection Density

Sample Unit in Feature	Inspected Sample Units
1-2	ALL
3-4	2
5-7	3
8-10	4
11-14	5
15-19	6
20-25	7
26-30	8
31-37	9
38-45	10
46-55	11
56-80	12
> 80	15%

1.2.3 Conduct Airfield Condition Survey

The pavement condition surveys were performed in accordance with ASTM D5340-12. The procedure is based on the identification and measurement of visible distress at the pavement surface. Each PCI distress will deduct from the pavement's perfect condition of 100. Using pavement management software (or curves provided in ASTM D5340-12), a deduct value is determined for each combination of distress type, severity, and measured quantity. The PCI value is then determined from the unique combination of these variables.

A primary benefit of the PCI procedure is the ability to perform objective evaluations and compare pavement condition with an easy-to-understand numerical rating. Because the combined impact of multiple distresses is not cumulative, ASTM D5340-12 provides an additional family of curves to adjust for multiple distresses. The PCI is determined by applying the individual deduct value for each distress type along with any required correction factors to account for multiple distress types.

Figure 1-2 shows the relationship between PCI values and descriptive ratings. Generally, pavement maintenance is most cost-effective when the pavement is still in satisfactory condition. Rehabilitation, such as an asphalt mill and inlay, is typically performed for pavements with PCI values between 55 and 70. When the PCI value drops below 55, a mill an inlay may not provide the desired performance and complete reconstruction often becomes the most cost-effective means of repairing the pavement.

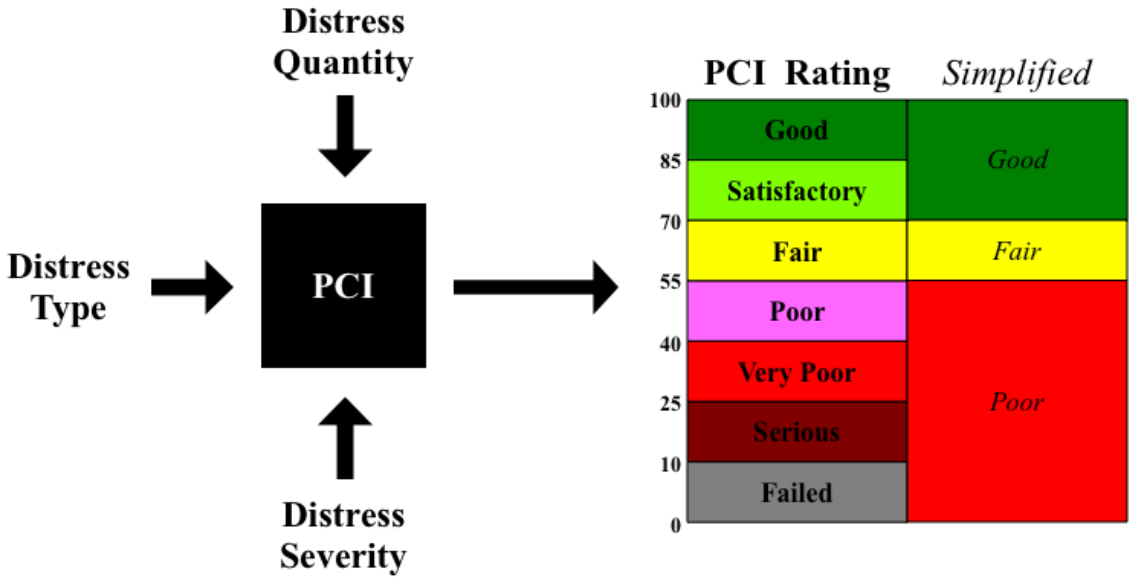

Figure 1-2. PCI Value and Descriptive Rating

1.2.4 Update AIRPAV Database & Software

The network definition, construction history, and data from the survey were entered into the AIRPAV pavement management system (APMS) software. After all data were entered, family curves were developed to model the change in pavement condition over time. These family curves are used to estimate future pavement condition. Typically, several curves are developed, with separate curves defined for different pavement surface types, such as AC, PCC, asphalt overlay on existing asphalt (AAC), and asphalt overlay on existing concrete (APC). The latest version of AIRPAV containing all survey data, deterioration curves, M&R policies, budgets, and construction history, was provided to INDOT on CD-ROM.

1.2.5 Develop 5-Year Airfield M&R Work Plans

A 5-year capital improvement program (CIP) was developed showing the year that each pavement feature was expected to fall below the MSL. The 5-year plan detailed in chapter 3 shows rehabilitation alternatives for each feature based on the PCI and the individual distress types observed during the pavement evaluation. The timing of each project is shown as the year that the PCI falls below the MSL and does not consider other important factors. Using reports like this for each airport in the State, INDOT engineers and planners develop a final 5-year statewide CIP plan that balances the sometimes conflicting priorities of pavement condition, operational constraints, construction staging considerations, and available funding.

1.2.6 Report Finding to INDOT

This report includes background information, PCI results and recommendations, and M&R budget scenarios. Photographs depicting typical pavement conditions observed during the survey are included in chapter 2. Appendix A contains general information about the AIRPAV pavement management software. Appendix B contains a summary of general maintenance techniques and best practices. Appendix C provides a detailed summary of the airfield pavement condition. Appendix D describes common airfield distress types. Appendix E provides an analysis of each pavement section based on recorded distress, and Appendix F contains exhibits to help the airport owner manage the airfield pavement system.

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2. Pavement Condition Evaluation

2.1 Overview

Approximately 5,700,000 ft^2 of total airside pavement is represented herein. Using statistical sampling methods approximately 640,000 ft^2 of AC pavement and approximately 950,000 ft^2 of PCC pavement was surveyed as part of this assessment. The average inspected PCI for all pavements was 82 (Satisfactory). The average inspected PCI for the runways, taxiways, and ramps were as follows: 86 (Good), 82 (Satisfactory), and 75 (Satisfactory). Table 2-1 provides a general description of the PCI rating categories, including a simplified rating scale of Good, Fair, and Poor. This table also shows the associated distress levels and general M&R requirements for each rating category.

Table 2-1. Definition and Distribution of PCI Ratings

Simplified PCI Rating	PCI Range	Definition	Pavement Area (ft^2)	Pavement Area (%)
Good	86-100	GOOD: Pavement has minor or no distresses and requires only routine maintenance.	3,154,513	55%
	71-85	SATISFACTORY: Pavement has scattered low-severity distresses that need only routine maintenance.	2,023,892	35%
Fair	56-70	FAIR: Pavement has a combination of generally low- and medium-severity distresses. M&R needs are routine to major in the near future.	150,100	3%
Poor	41-55	POOR: Pavement has low-, medium-, and high-severity distresses that probably cause some operational problems. Near-term maintenance and repair needs may range from routine up to a requirement for reconstruction.	285,809	5%
	26-40	VERY POOR: Pavement has predominantly medium- and high-severity distresses that cause considerable maintenance and operational problems. Near-term maintenance and repair needs will be intensive in nature.	112,014	2%
	11-25	SERIOUS: Pavement has mainly high-severity distresses that cause operational restrictions; immediate repairs are needed.	-	0%
	0-10	FAILED: Pavement deterioration has progressed to the point that safe operations are no longer possible; complete reconstruction is required.	-	0%

The pavement within each of the PCI condition categories is shown in Figure 2-1. The inspected PCI is summarized by branch use in Figure 2-2, and the photographs in Figure 2-3 through Figure 2-7 provide examples of the condition categories.

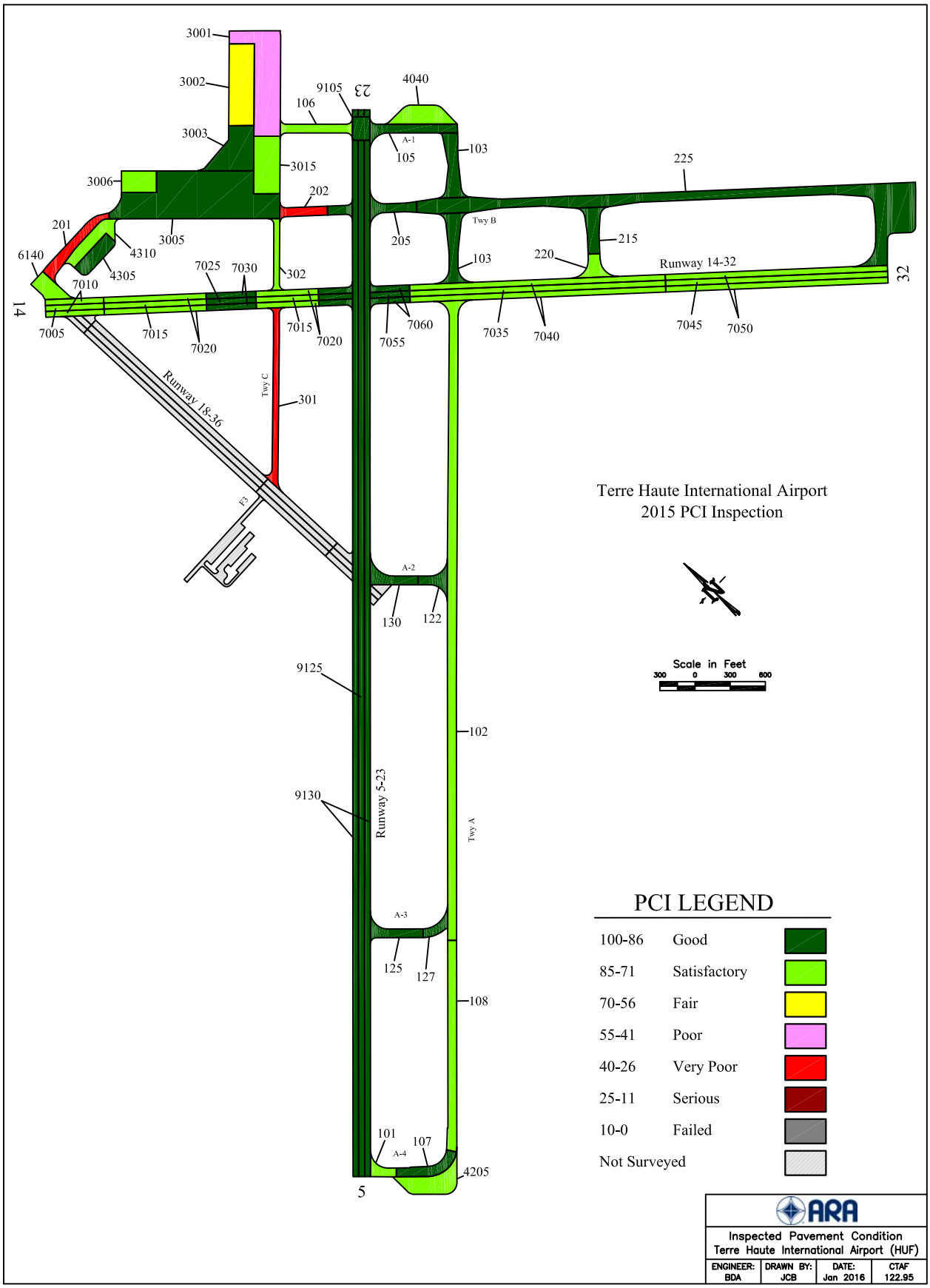

Figure 2–1. Inspected Pavement Condition at Terre Haute International Airport (HUF).

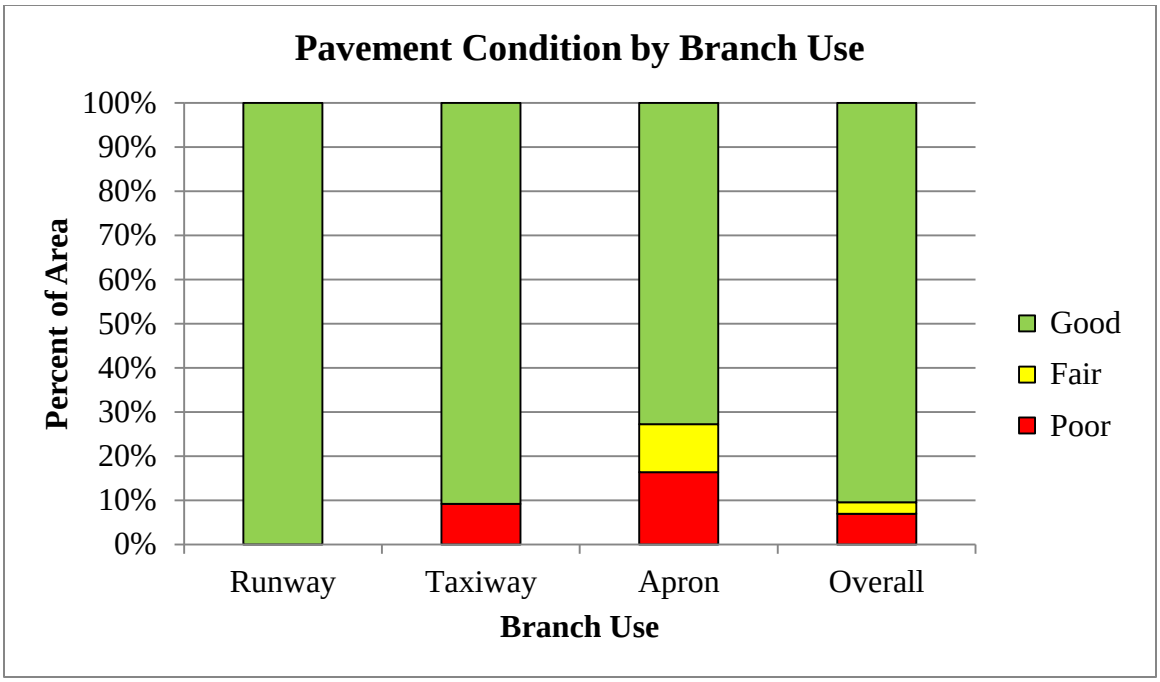

Figure 2-2. Pavement Condition by Branch Use

Figure 2-3. Typical PCC Pavement in Good Condition (Feature 106)

Figure 2-4. Typical PCC Pavement in Fair Condition (Feature 3002)

Figure 2-5. Typical PCC Pavement in Poor Condition (Feature 3001)

Figure 2-6. Typical AC Pavement in Good Condition (Feature 130)

Figure 2-7. Typical AC Pavement in Poor Condition (Feature 202)

2.2 Distress Types and Frequency

The inspectors surveyed 642,700 ft^2 of AC pavement. The frequency of each distress type is shown in Table 2-2. The recorded distress types were L&T cracking, weathering, alligator cracking, depressions, patching, raveling, block cracking, rutting, and joint reflection cracking. L&T cracking and block cracking are age-related distresses. Alligator cracking and rutting are load-related distresses.

Table 2-2. Distress Frequency in AC Pavement

Distress	Sample Units	% Inspected Sample Units
L&T CRACKING	133	99
WEATHERING	60	45
ALLIGATOR CRACKING	14	10
DEPRESSIONS	8	6
PATCHING	8	6
RAVELING	8	6
BLOCK CRACKING	2	2
RUTTING	2	2
JOINT REFLECTION	1	1

The inspectors surveyed 948,100 ft^2 of PCC pavement. The frequency of each distress type is shown in Table 2-2. The recorded distress types were joint seal damage, corner and joint spalling, patching, shrinkage cracks, LTD cracking, settlement, corner break, shattered slab, 'D' cracking, scaling, and pumping.

Table 2-3. Distress Frequency in PCC Pavement

Distress	Sample Units	% Inspected Sample Units
JOINT SEAL DAMAGE	131	99
CORNER SPALLING	41	31
JOINT SPALLING	31	23
PATCHING SMALL	30	23
SHRINKAGE CRACKS	28	21
LONG/TRANS/DIAG CRACKS	27	20
SETTLEMENT OR FAULTING	15	11
CORNER BREAK	11	8
SHATTERED SLAB	9	7
PATCHING LARGE	7	5
`D'CRACKING	2	2
SCALING/CRAZING/MAP CRACK	2	2
PUMPING	1	1
ASR	1	1

2.3 PCI Summary

The branch and section PCI values are shown below, along with the surface type, area, and last year construction occurred. Airfield maintenance has increased the PCI on features 7025 and 7050.

Table 2-4. PCI Results

Branch ID	Branch PCI	Section	Surface	Area (sf)	Built	2013 PCI	2015 PCI
100	85	101	AC	23,022	1999	93	80
		102	AC	15,565	1999	84	84
		103	AC	19,611	1999	87	86
		105	AC/AC	9,159	2012	89	89
		106	AC/AC	140,048	2012	86	84
		107	AC/AC	21,126	2009	95	90
		108	PCC	431,770	1988	85	83
		122	PCC	132,716	1989	88	88
		125	PCC	61,930	1989	93	90
		127	PCC	48,372	1997	88	88
		130	PCC	46,661	1988	95	94
200	82	201	PCC	138,393	1988	49	42
		202	PCC	28,374	1988	33	32
		205	AC/AC	38,828	2009	95	88
		215	PCC	19,950	1988	90	86
		220	AC/AC	39,174	2009	91	85
		225	AC/AC	59,909	1997	89	89
300	46	301	AC/AC	32,100	1971	38	35
		302	AC/PCC	54,848	2009	78	72
3000	74	3001	PCC	47,293	1997	50	50
		3002	AC/PCC	30,590	1998	63	56
		3003	PCC	531,739	1997	87	86
		3005	AC	79,914	1971	87	86
		3006	AC/AC	32,221	1995	82	78
		3015	PCC	225,900	1984	90	85
4000	79	4040	PCC	150,100	1978	83	79
4200	77	4205	PCC	113,154	1988	79	77
4300	82	4305	PCC	463,773	1984	88	88
		4310	PCC	54,930	1962	83	77
6100	78	6140	PCC	110,640	1978	-	78
7000	82	7005	PCC	71,465	1997	78	74
		7010	PCC	82,880	1988	79	76

Branch ID	Branch PCI	Section	Surface	Area (sf)	Built	2013 PCI	2015 PCI
		7015	PCC	49,151	1978	83	77
		7020	AC	59,415	1997	86	81
		7025	AC/AC	40,710	1997	91	93
		7030	AC/AC	25,013	1998	89	87
		7035	AC/AC	50,158	1998	77	73
		7040	AC/AC	70,476	1998	82	81
		7045	AC/AC	140,952	1998	83	80
		7050	PCC	21,236	1998	82	83
		7055	PCC	42,472	1998	92	90
		7060	AC/AC	109,270	1998	100	97
9100	89	9105	AC/AC	218,549	1998	100	86
		9125	PCC	94,985	1998	100	88
		9130	PCC	191,677	1998	100	90

2.4 Analysis Commentary

The following pages provide a brief overview of the 2015 inspected pavement conditions for each facility. Comments are based primarily on the AIRPAV analysis but also include field notes and remarks from the pavement condition inspectors. Where appropriate, individual pavement sections are referenced within the larger facility.

2.4.1 Runways

The runways consisted of 11 sections of AC pavement and five sections of PCC pavement. The runways had a total area of 2,468,712 ft² with an area-weighted average PCI of 86 (Good). L&T cracks and weathering were the most common distress types in the AC sections. The PCC sections saw spalling and joint seal damage as the most common distresses. The distribution of runway pavement by PCI range is shown in Table 2-5.

Table 2-5. Runway Condition Distribution

PCI Range	Rating	Number of Sections	Pavement Area (ft²)	Pavement Area (%)
100-71	Good	16	2,468,712	100%
70-56	Fair	-	-	0%
55-0	Poor	-	-	0%

2.4.2 Taxiways

The taxiways consisted of nine sections of AC pavement and 10 sections of PCC pavement. The total area of the taxiway pavement was 1,875,908 ft², with an area-weighted average PCI of 82(Good). In the "Good" AC pavement, L&T cracking and weathering were the dominant distresses. Alligator cracking and rutting was present in the AC pavement in "Poor" condition.

The PCC sections were all in "Good" condition. The distribution of taxiway pavement by PCI range is shown in Table 2-6.

Table 2-6. Taxiway Condition Distribution

PCI Range	Rating	Number of Sections	Pavement Area (ft²)	Pavement Area (%)
100-71	Good	16	1,703,985	91%
70-56	Fair	-	-	-
55-0	Poor	3	171,923	9%

2.4.3 Aprons

The aprons consisted of one section of AC pavement and nine sections of PCC pavement. The total area of apron pavement was 1,381,408 ft², and the area-weighted average PCI was 75 (Good). Load related distresses were common (LTD cracks, corner breaks, shattered slabs) and occurred more frequently in the sections with lower PCI's. The distribution of apron pavement by PCI range is shown in Table 2-7.

Table 2-7. Apron Condition Distribution

PCI Range	Rating	Number of Sections	Pavement Area (ft²)	Pavement Area (%)
100-71	Good	8	1,005,408	73%
70-56	Fair	1	150,100	11%
55-0	Poor	1	225,900	16%

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3. Capital Improvement Program

3.1 Analysis

The individual feature analyses shown in appendix E document viable rehabilitation projects that address the causes of each pavement section's distress while restoring the pavement to a condition above the desired MSL. The recommended timing of each improvement action is defined as the year that the pavement condition is projected to reach the MSL. By establishing benchmark MSL targets, it is possible to plan objectively for future needs against a standard set of performance criteria. This section categorizes the identified viable options into CIP strategies based on cost and expected service life.

The airport may find it desirable to adjust the timing of projects detailed in the CIP to meet fiscal and operational constraints. For example, if different sections of a runway were projected to reach the MSL in various years ranging from 2016 to 2018, it is not operationally feasible to stage rehabilitation over a 3-year period. Instead, runway rehabilitation would be programmed in a manner that balanced the need to minimize the length of the runway closure while maximizing the remaining service life.

3.2 Cost Estimates

Project costs were estimated based on the pavement area and the unit costs shown in Table 3-1 for specific M&R activities. Project costs are presented so planners and managers can compare the relative magnitude of funding required for various alternatives. The two-page AIRPAV feature analysis (see appendix E) provides cost estimates for each identified project. These cost estimates are for planning purposes only and do not constitute an engineering estimate.

Furthermore, these cost estimates represent the improvement of existing pavement structures and associated incidental work only. Other potential project line items, such as lighting, navigational aids, and drainage modifications are not included, and estimates for those items must be developed separately and incorporated into an overall project cost.

Typical examples of work that might be included in alternatives evaluated by AIRPAV are outlined on the following pages. These example projects would meet the requirements for each selected option; however, the descriptions are not intended to imply required, or even preferred, design configurations. Rehabilitation decisions, such as overlay thickness design, should be made in conjunction with engineering design analysis.

Table 3-1. Unit Costs

Rigid Pavement (PCC)	
Reconstruction	$12.90 /sf
Slab Replacement & Full Depth Patching	$12.48 /sf
Patching (Partial Depth)	$16.70 /sf
Slab Repair & Overlay	$4.69 /sf + $0.41 /sf/in > 4”
Joint Seal Replacement	$2.24 /lf
Joint Seal Repair	$0.87 /lf
Undersealing	$4.16 /sf
Flexible Pavement (AC)	
Reconstruction	$5.36 /sf
Resurfacing	$1.44 /sf
Structural Overlay	$2.25 /sf + $0.41 /sf/in > 4”
Surface Treatment	$0.39 /sf
Patching	$9.78 /lf
Crack Repair (Restorative)	$1.24 /lf
Crack Repair (Sustaining)	$0.85 /lf

3.2.1 Rigid Pavement Work Descriptions

The following descriptions provide additional information about the typical work items covered by the unit costs shown in Table 3-1.

3.2.1.1 Reconstruction

Reconstruction is recommended when the pavement defects would not be corrected by less extensive measures. Unit prices assume removal of the existing pavement to the subgrade and reconstruction with 8 inches of high strength PCC pavement on 6 inches of aggregate subbase.

3.2.1.2 Repair and Overlay

This procedure usually consists of a rubblize or a crack and seat process, where the existing pavement is broken into segments of approximately 2 ft on a side by dropping a heavy breaker bar onto the pavement. Properly done, aggregate interlock between pavement segments is retained and reflective cracking is reduced. A flexible surface is then placed over the recycled PCC base.

3.2.1.3 Slab Replacement

Slab replacements are typically required for high-severity blow ups, scaling, and shattered slabs. Unit prices assume removal of the selected slab to the subgrade. Prepare subgrade to bearing strength equivalent to surrounding subgrade. Provide subbase support equivalent to existing and install load transfer steel as required. Place PCC pavement level with existing surface.

3.2.1.4 Patching (Partial Depth)

While partial depth patching is most commonly used to repair joint and corner spalls, it is effective for a wide variety of distress types. Saw cut and remove area of pavement to sound concrete above reinforcing steel. Treat existing concrete to ensure firm bond. Place PCC level with existing surface.

3.2.1.5 Joint Seal Replacement

Rout joints and cracks to a depth of at least 1-1/4 inches, clean joint wall surfaces to expose fresh vital concrete, install backing rope, and apply rubberized sealant meeting ASTM D3405 specification, or equivalent.

3.2.1.6 Joint Seal Repair

Press existing sealant into joint for use as backer material; apply joint sealant meeting ASTM D3405 specification, or equivalent.

3.2.1.7 Undersealing

Undersealing is used to repair faulting between slabs or when corner breaks have settled relative to the slab. High-pressure injection is used to force material into the underlying voids and continues until the settled pavement is restored to its original elevation. Several materials have been used for undersealing, including cement grout, asphalt slurries, and proprietary formulations of expansive Styrofoam.

3.2.2 Flexible Pavement Work Descriptions

3.2.2.1 Reconstruction

Reconstruction is recommended when the pavement defects would not be corrected by less extensive measures. Unit prices assume removal of existing pavement to subgrade. Scarify and compact subgrade to 6-inch depth. Construct 4 inches of P401 AC surface course on 8 inches of aggregate base course.

3.2.2.2 Resurfacing

Resurfacing assumes a nominal 2-inch asphalt mill and inlay on existing prepared pavement.

3.2.2.3 Structural Overlay

Structural overlays are used to address load related distress or to increase pavement load bearing capacity. Apply a 4-inch AC overlay on existing prepared pavement. Add additional thickness as needed to achieve required strength.

3.2.2.4 Surface Treatment

Apply a high-quality, penetrating rejuvenating sealer

3.2.2.5 Patching

High-performance cold patching products can be used for short term repairs. Long-term patches should be made with plant mixed hot asphalt meeting FAA P401 specs.

3.2.2.6 Crack Repair (Restorative)

Rout existing crack to a minimum depth of 1-1/4 inches, install backing rope and apply rubberized crack filler meeting ASTM D3405 specification.

3.2.2.7 Crack Repair (Sustaining)

This is typically spot repairs of existing crack sealant.

3.3 Capital Improvement Strategies

Figure 3-1 shows a projection of the overall airport pavement condition for the next 10 years based on implementing one of three capital improvement strategies:

- No Action: No capital improvement action is undertaken
- Longest Life: The most comprehensive repair and longest life rehabilitation option
- Lowest Cost: The rehabilitation option with the projected lowest annual cost

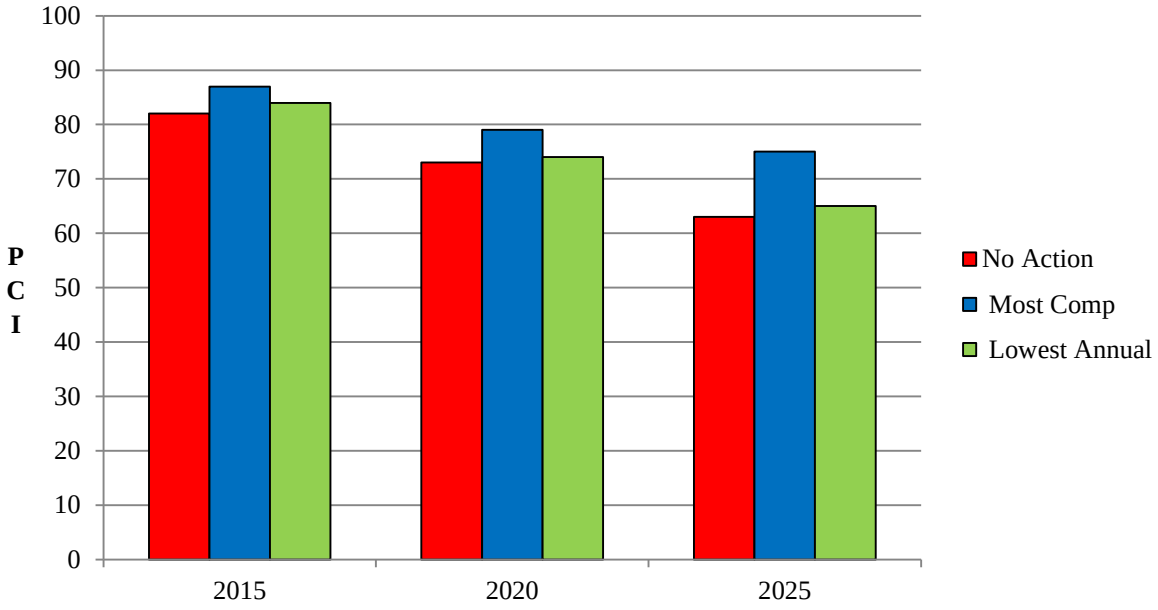

Figure 3-1. Programmed CIP

The longest life CIP scenario for all of the pavement projected to fall below the MSL is projected to cost approximately **$8.8 million** over the next 10 years. The corresponding lowest annual cost scenario is also projected to cost approximately **$760,000** over the next 10 years. Examples of each capital improvement strategy and a complete listing of all viable capital projects are presented in Table 3-2 through Table 3-4.

Table 3-2. Most Comprehensive Repair

Feature	Built	Description	Action Yr	Work Item	Cost, $
201	1997	TAXIWAY D	2015	Resurfacing	86,268
202	1971	TAXIWAY B	2015	Reconstruction	172,056
301	1971	TAXIWAY C	2015	Reconstruction	428,339
3001	1984	TERMINAL RAMP	2015	Reconstruction	2,914,109
3002	1978	TERMINAL RAMP	2015	Repair and Overlay	827,051
3006	1962	RAMP	2020	Reconstruction	708,596
7035	1998	RUNWAY 14-32 KEEL	2021	Resurfacing	157,348
302	1995	TAXIWAY C	2022	Resurfacing	46,398
7005	1998	RUNWAY 14-32 KEEL	2022	Resurfacing	36,018
4205	1988	RUNWAY 5 RUN UP	2023	Repair and Overlay	456,668

Feature	Built	Description	Action Yr	Work Item	Cost, $
6140	1997	RUNWAY 18-36 TAXI	2023	Resurfacing	58,622
7010	1998	RUNWAY 14-32 WING	2023	Resurfacing	72,227
7015	1998	RUNWAY 14-32 KEEL	2023	Resurfacing	101,485
7045	1998	RUNWAY 14-32 KEEL	2023	Repair and Overlay	523,367
9105	2009	RUNWAY 5-23	2023	Reconstruction	386,999
220	1998	TAXIWAY B2	2024	Resurfacing	44,049
3015	1978	RAMP	2024	Reconstruction	1,427,255
4040	1997	RUNWAY 23 RUN UP	2024	Repair and Overlay	393,772
				Total	**8,840,627**

Table 3-3. Lowest Annual Cost Repair

Feature	Built	Description	Action Yr	Work Item	Cost, $
201	1997	TAXIWAY D	2015	Resurfacing	86,268
202	1971	TAXIWAY B	2015	Structural Overlay	72,546
301	1971	TAXIWAY C	2015	Structural Overlay	180,605
3001	1984	TERMINAL RAMP	2015	Patching	23,578
3002	1978	TERMINAL RAMP	2015	Patching / Joint Repair	42,868
3006	1962	RAMP	2020	Joint/Crack Repair	8,182
7035	1998	RUNWAY 14-32 KEEL	2021	Surface Treatment	44,012
302	1995	TAXIWAY C	2022	Surface Treatment	12,629
7005	1998	RUNWAY 14-32 KEEL	2022	Surface Treatment	10,465
4205	1988	RUNWAY 5 RUN UP	2023	Patching / Joint Repair	15,467
6140	1997	RUNWAY 18-36 TAXI	2023	Crack Repair	2,099
7010	1998	RUNWAY 14-32 WING	2023	Surface Treatment	20,727
7015	1998	RUNWAY 14-32 KEEL	2023	Surface Treatment	28,113
7045	1998	RUNWAY 14-32 KEEL	2023	Patching / Joint Repair	18,078
9105	2009	RUNWAY 5-23	2023	Repair and Overlay	165,300
220	1998	TAXIWAY B2	2024	Surface Treatment	11,930
3015	1978	RAMP	2024	Patching / Joint Repair	8,509
4040	1997	RUNWAY 23 RUN UP	2024	Patching / Joint Repair	9,913
				Total	**761,289**

Table 3-4. All Viable Options

Feature	Built	Description	Action Yr	Work Item	Cost, $
201	1997	TAXIWAY D	2015	Resurfacing	86,268
201	1997	TAXIWAY D	2015	Surface Treatment	24,667
202	1971	TAXIWAY B	2015	Reconstruction	172,056
202	1971	TAXIWAY B	2015	Structural Overlay	72,546
202	1971	TAXIWAY B	2015	Surface Treatment	13,689
220	1998	TAXIWAY B2	2024	Resurfacing	44,049
220	1998	TAXIWAY B2	2024	Surface Treatment	11,930
301	1971	TAXIWAY C	2015	Reconstruction	428,339
301	1971	TAXIWAY C	2015	Structural Overlay	180,605
301	1971	TAXIWAY C	2015	Surface Treatment	34,158
302	1995	TAXIWAY C	2022	Resurfacing	46,398
302	1995	TAXIWAY C	2022	Surface Treatment	12,629
3001	1984	TERMINAL RAMP	2015	Patching	23,578
3001	1984	TERMINAL RAMP	2015	Patching / Joint Repair	75,744

Feature	Built	Description	Action Yr	Work Item	Cost, $
3001	1984	TERMINAL RAMP	2015	Reconstruction	2,914,109
3001	1984	TERMINAL RAMP	2015	Repair and Overlay	1,244,709
3001	1984	TERMINAL RAMP	2015	Slab Replacement / Joint Seal	158,776
3001	1984	TERMINAL RAMP	2015	Slab Replacement / Patching	130,187
3001	1984	TERMINAL RAMP	2015	Slab Replacement / Patching / Joint Seal	182,354
3002	1978	TERMINAL RAMP	2015	Patching / Joint Repair	42,868
3002	1978	TERMINAL RAMP	2015	Repair and Overlay	827,051
3002	1978	TERMINAL RAMP	2015	Slab Replacement / Patching / Joint Seal	99,066
3006	1962	RAMP	2020	Joint/Crack Repair	8,182
3006	1962	RAMP	2020	Reconstruction	708,596
3006	1962	RAMP	2020	Repair and Overlay	302,664
3015	1978	RAMP	2024	Patching / Joint Repair	8,509
3015	1978	RAMP	2024	Reconstruction	1,427,255
3015	1978	RAMP	2024	Repair and Overlay	609,626
4040	1997	RUNWAY 23 RUN UP	2024	Patching / Joint Repair	9,913
4040	1997	RUNWAY 23 RUN UP	2024	Repair and Overlay	393,772
4205	1988	RUNWAY 5 RUN UP	2023	Patching / Joint Repair	15,467
4205	1988	RUNWAY 5 RUN UP	2023	Repair and Overlay	456,668
6140	1997	RUNWAY 18-36 TAXI	2023	Crack Repair	2,099
6140	1997	RUNWAY 18-36 TAXI	2023	Resurfacing	58,622
6140	1997	RUNWAY 18-36 TAXI	2023	Surface Treatment	16,696
7005	1998	RUNWAY 14-32 KEEL	2022	Crack Repair	2,703
7005	1998	RUNWAY 14-32 KEEL	2022	Resurfacing	36,018
7005	1998	RUNWAY 14-32 KEEL	2022	Surface Treatment	10,465
7010	1998	RUNWAY 14-32 WING	2023	Crack Repair	4,181
7010	1998	RUNWAY 14-32 WING	2023	Resurfacing	72,227
7010	1998	RUNWAY 14-32 WING	2023	Surface Treatment	20,727
7015	1998	RUNWAY 14-32 KEEL	2023	Crack Repair	6,135
7015	1998	RUNWAY 14-32 KEEL	2023	Resurfacing	101,485
7015	1998	RUNWAY 14-32 KEEL	2023	Surface Treatment	28,113
7035	1998	RUNWAY 14-32 KEEL	2021	Crack Repair	12,367
7035	1998	RUNWAY 14-32 KEEL	2021	Resurfacing	157,348
7035	1998	RUNWAY 14-32 KEEL	2021	Surface Treatment	44,012
7045	1998	RUNWAY 14-32 KEEL	2023	Patching / Joint Repair	18,078
7045	1998	RUNWAY 14-32 KEEL	2023	Repair and Overlay	523,367
9105	2009	RUNWAY 5-23	2023	Reconstruction	386,999
9105	2009	RUNWAY 5-23	2023	Repair and Overlay	165,300

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4. Maintenance Management Program

4.1 General Comments

Most pavement distress types are classified by severity (low, medium, or high). As a general rule, high-severity distresses should be patched, and medium-severity distress should be sealed. A detailed matrix of recommended maintenance policies to address various distress types is provided near the end of this section.

4.1.1 Inspected Crack Severity

Of the inspected pavement, 71 percent of the cracks were rated at low severity and require no maintenance beyond ongoing inspection and spot repair. About 21 percent of the cracks were rated at medium severity and would benefit from sealing. Approximately 8 percent of the cracks were rated at high severity and will likely requiring patching.

4.1.2 Other Distress

The asphalt pavement area measured distresses such as rutting, swell, alligator cracks, and raveling were recorded as follows: 85 percent at low severity, 15 percent at medium severity, and none at high severity.

4.2 Recommended Maintenance Actions

The following illustrations and tables show pavement areas that have maintenance and repair needs. Ongoing development of capital improvement projects may address some of these maintenance needs. To help budgeting and prevent duplication of effort, all pavement features recommended for maintenance should be compared to planned improvements prior to finalizing a maintenance program strategy.

Table 4-1. Recommend Maintenance Actions

Work Item	Quantity	Unit	Cost
AC PATCH	2,013	SF	$17,467
AC RESTORATIVE CRACK REPAIR	22,424	LF	$27,805
AC SUSTAINING CRACK REPAIR	4,174	LF	$3,612
PCC PATCH	1,935	SF	$32,327
PCC RESTORATIVE CRACK REPAIR	285,451	LF	$640,373
PCC SLAB REPLACEMENT	14,128	SF	$176,422
		Total:	**$898,006**

4.2.1 Crack Seal

Table 4-2. Recommend AC Restorative Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
202	AC RESTORATIVE CRACK REPAIR	3,546	32	-	32
205	AC RESTORATIVE CRACK REPAIR	1,254	88	4	92
301	AC RESTORATIVE CRACK REPAIR	6,326	35	2	37
4310	AC RESTORATIVE CRACK REPAIR	4,054	77	4	81
6140	AC RESTORATIVE CRACK REPAIR	1,692	78	5	83
7005	AC RESTORATIVE CRACK REPAIR	2,180	74	2	76
7010	AC RESTORATIVE CRACK REPAIR	3,372	76	4	80
	TOTAL:	22,424	L.F.		
EQUIPMENT: AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 4,485 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $4,484					
EST. CREW HOURS: 112.1					
EST. CREW COST: $23,320					
EST. PROJECT COST: $27,805					

Table 4-3. Recommend AC Sustaining Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
201	AC SUSTAINING CRACK REPAIR	1,936	42	N/A	42
7015	AC SUSTAINING CRACK REPAIR	742	77	N/A	77
7035	AC SUSTAINING CRACK REPAIR	1,496	73	N/A	73
	TOTAL:	4,174	L.F.		
EQUIPMENT: AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 835 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $834					
EST. CREW HOURS: 18.2					
EST. CREW COST: $2,777					
EST. PROJECT COST: $3,612					

Table 4-4. Recommend PCC Restorative Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
102	PCC RESTORATIVE SEAL REPAIR	34,500	84	8	92
103	PCC RESTORATIVE SEAL REPAIR	10,648	86	10	96
105	PCC RESTORATIVE SEAL REPAIR	4,950	89	9	98
106	PCC RESTORATIVE SEAL REPAIR	3,850	84	8	92
107	PCC RESTORATIVE SEAL REPAIR	3,996	90	8	98
108	PCC RESTORATIVE SEAL REPAIR	11,277	83	11	94
122	PCC RESTORATIVE SEAL REPAIR	2,250	88	10	98
127	PCC RESTORATIVE SEAL REPAIR	1,550	88	10	98
215	PCC RESTORATIVE SEAL REPAIR	4,043	86	9	95
225	PCC RESTORATIVE SEAL REPAIR	44,188	89	7	96
3001	PCC RESTORATIVE SEAL REPAIR	31,842	50	3	53
3002	PCC RESTORATIVE SEAL REPAIR	20,693	56	8	64
3003	PCC RESTORATIVE SEAL REPAIR	9,050	86	11	97

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
3005	PCC RESTORATIVE SEAL REPAIR	41,106	86	6	92
3006	PCC RESTORATIVE SEAL REPAIR	6,925	78	7	85
3015	PCC RESTORATIVE SEAL REPAIR	9,883	85	-	85
4040	PCC RESTORATIVE SEAL REPAIR	6,350	79	4	83
4205	PCC RESTORATIVE SEAL REPAIR	6,600	77	7	84
4305	PCC RESTORATIVE SEAL REPAIR	3,900	88	10	98
7025	PCC RESTORATIVE SEAL REPAIR	1,650	93	2	95
7030	PCC RESTORATIVE SEAL REPAIR	3,350	87	10	97
7045	PCC RESTORATIVE SEAL REPAIR	7,550	80	7	87
7050	PCC RESTORATIVE SEAL REPAIR	15,300	83	2	85
	TOTAL:	285,451	L.F.		
EQUIPMENT: ROUTER, SAND BLASTER, AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 57,091 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $145,582					
EST. CREW HOURS: 2378.8					
EST. CREW COST: $494,790					
EST. PROJECT COST: $640,373					

4.2.2 Patching

Table 4-5. Recommend AC Patching

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
201	AC PATCH	1,033	42	24	66
202	AC PATCH	771	32	25	57
301	AC PATCH	209	35	18	53
	TOTAL:	2,013	S.F.		
EQUIPMENT: SAW, AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 25 TONS ASPHALT PATCH					
EST. MATERIAL COST: $2,510					
EST. CREW HOURS: 57.5					
EST. CREW COST: $14,957					
EST. PROJECT COST: $17,467					

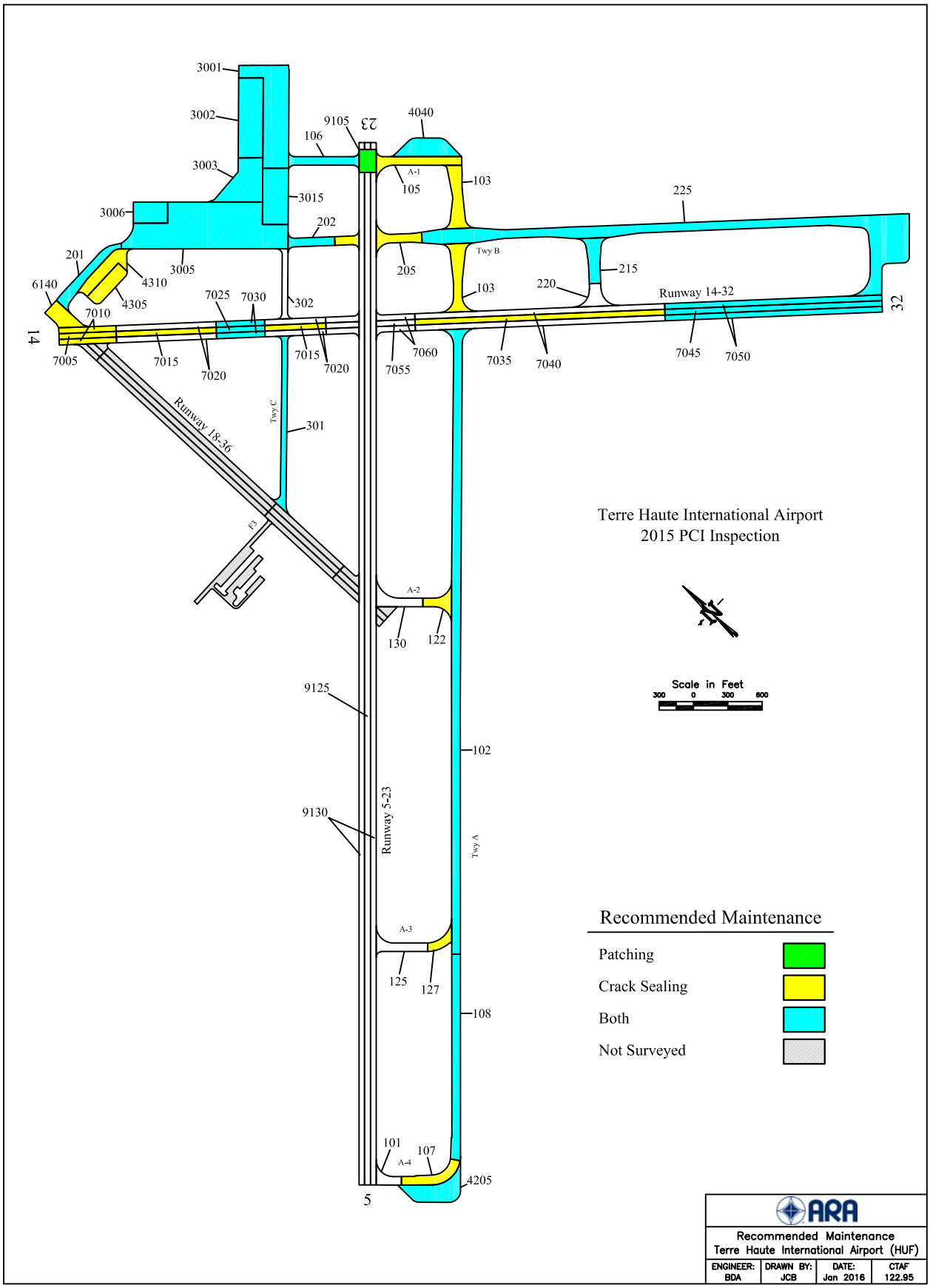
Table 4-6. Recommend PCC Patching

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
102	PCC PATCHING	38	84	1	85
106	PCC PATCHING	10	84	1	85
108	PCC PATCHING	15	83	-	83
215	PCC PATCHING	10	86	1	87
225	PCC PATCHING	24	89	-	89
3001	PCC PATCHING	1237	50	12	62
3002	PCC PATCHING	221	56	3	59
3003	PCC PATCHING	30	86	1	87
3005	PCC PATCHING	53	86	1	87
3006	PCC PATCHING	74	78	4	82
3015	PCC PATCHING	16	85	-	85

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
4040	PCC PATCHING	80	79	5	84
4205	PCC PATCHING	34	77	6	83
7025	PCC PATCHING	4	93	1	94
7030	PCC PATCHING	10	87	-	87
7045	PCC PATCHING	31	80	5	85
7050	PCC PATCHING	38	83	1	84
9105	PCC PATCHING	10	86	4	90
	TOTAL:	1935	S.F.		
EQUIPMENT: SAW, AIR COMPRESSOR, JACK HAMMER, MIXER, HAND TOOLS					
EST. MATERIALS: 40 CUBIC YARDS CONCRETE MIX					
EST. MATERIAL COST: $5,108					
EST. CREW HOURS: 194.4					
EST. CREW COST: $27,218					
EST. PROJECT COST: $32,327					

Table 4-7. Recommend PCC Slab Repair/Replacement

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
3001	SLAB REPAIR/REPLACEMENT	9078	50	9	59
3002	SLAB REPAIR/REPLACEMENT	4788	56	11	67
3003	SLAB REPAIR/REPLACEMENT	129	86	-	86
4040	SLAB REPAIR/REPLACEMENT	133	79	-	79
	TOTAL:	14128	S.F.		
EQUIPMENT: SAW, AIR COMPRESSOR, JACK HAMMER, MIXER, LOADER, HAND TOOLS					
EST. MATERIALS: 576 CUBIC YARDS CONCRETE MIX					
EST. MATERIAL COST: $55,841					
EST. CREW HOURS: 942.0					
EST. CREW COST: $120,580					
EST. PROJECT COST: $176,422					



ARA			
Recommended Maintenance Terre Haute International Airport (HUF)			
ENGINEER: BDA	DRAWN BY: JCB	DATE: Jan 2016	CTAF 122.95

Figure 4–1. Recommended Maintenance at Terre Haute International Airport (HUF).

4.3 Pavement Deterioration

Before implementing maintenance and repairs, it helps to understand pavement performance and pavement deterioration. The factors that contribute most to deterioration are environmental, materials, and/or load related. Brief discussions of each are presented in the following sections.

4.3.1 Environmental/Age-Related Deterioration

Seasonal and daily temperature changes cause expansion and contraction of the pavement materials. The shear stresses created by expansion and contraction can cause transverse cracking in flexible pavement and mid-slab cracking in rigid pavement. Further, expansion and contraction will cause cracks, and rigid pavement joints, to open and close with changes in temperature.

Flexible pavement oxidizes as it ages, losing its lighter, volatile, components and becoming brittle with time. Surface treatments and seal coats are designed, in part, to provide a protective barrier and slow this type of oxidation.

Subsurface water can have the greatest impact on pavement deterioration. A wet subgrade greatly reduces the ability of a pavement to support wheel loads, and the results often show up as rutting and cracking of flexible pavement. The fine materials in a wet base can be pumped up through the cracks and eventually result in a loss of support. This loss of support can be evidenced as corner breaks and faulting in rigid pavement. Moisture inside a pavement system expands when it freezes, creating stresses that cause the pavement surface to heave. Subsequent freeze-thaw cycles leave voids in the pavement structure that enable further rutting and breaking. Repeated freeze-thaw cycles eventually cause the pavement to disintegrate. Freeze-thaw deterioration requires frost-susceptible material, sub-zero temperatures, and water. If one of these factors is removed, freeze-thaw damage will not occur. One of the best ways to ensure pavement longevity is to provide drainage and keep it dry.

4.3.2 Materials-Related Deterioration

The pavement thickness and type of subgrade play a large role in the formation and spacing of transverse cracks. If the subgrade and base materials are smooth or rounded and allow for relatively free movement of the pavement surface, transverse cracks will often be spaced far apart (>60 feet). If the subgrade and base material are rough or angular and provide greater resistance to movement of the pavement surface, transverse cracks will be spaced more closely (<40 feet). The distance between transverse cracks also depends on the pavement thickness, as a thicker pavement can resist cracking for longer lengths. At general aviation airport pavements, around 50 feet is typical transverse crack spacing.

Aggregate is the biggest component of any pavement structure. It is the contact between the aggregate particles that actually transfers the load and provides the strength. Aggregate durability and shape are major factors affecting pavement performance. Durability is the ability of the aggregate to perform satisfactorily over time and resist deterioration. Sharp, well-angled aggregates that interlock, compact densely, and resist movement are the most desirable.

In flexible pavement, the selection of asphalt cement can have a significant impact on pavement performance. Asphalt is visco-elastic, which means it is stiff at low temperatures and flows at high temperatures. With this in mind, asphalt pavement should be designed to remain stiff on hot summer days to resist plastic deformation (rutting and shoving). In addition asphalt pavement should have sufficient cold temperature flexibility on cold winter days to resist transverse cracking. The proper selection of asphalt cement grade and maintaining adequate mix volumetrics (air voids, voids in the mineral aggregate, etc.) are key factors in the performance of flexible pavement.

As water freezes, it expands and occupies a greater volume than in its liquid state. In PCC pavement, interconnected, well-distributed air voids are required to allow for expansion of moisture within the PCC. PCC mixes with insufficient air entrainment are susceptible to freeze-thaw damage, as the expansive forces have been shown to cause concrete deterioration. Small, closely spaced, interconnected air voids provide the greatest degree of protection.

Asphalt paving mixes also require air voids, but for reasons different than for PCC pavement. When a well-constructed asphalt pavement is subjected to vehicle loading, it will nevertheless experience some minor secondary consolidation. Air voids allow for the safe movement of the asphalt binder within the mix. With insufficient air voids, the asphalt binder will migrate to the surface of the pavement—it will in essence, get squeezed out of the mix. This phenomenon is called flushing. In addition, these mixes become unstable and are prone to rutting in the wheel paths.

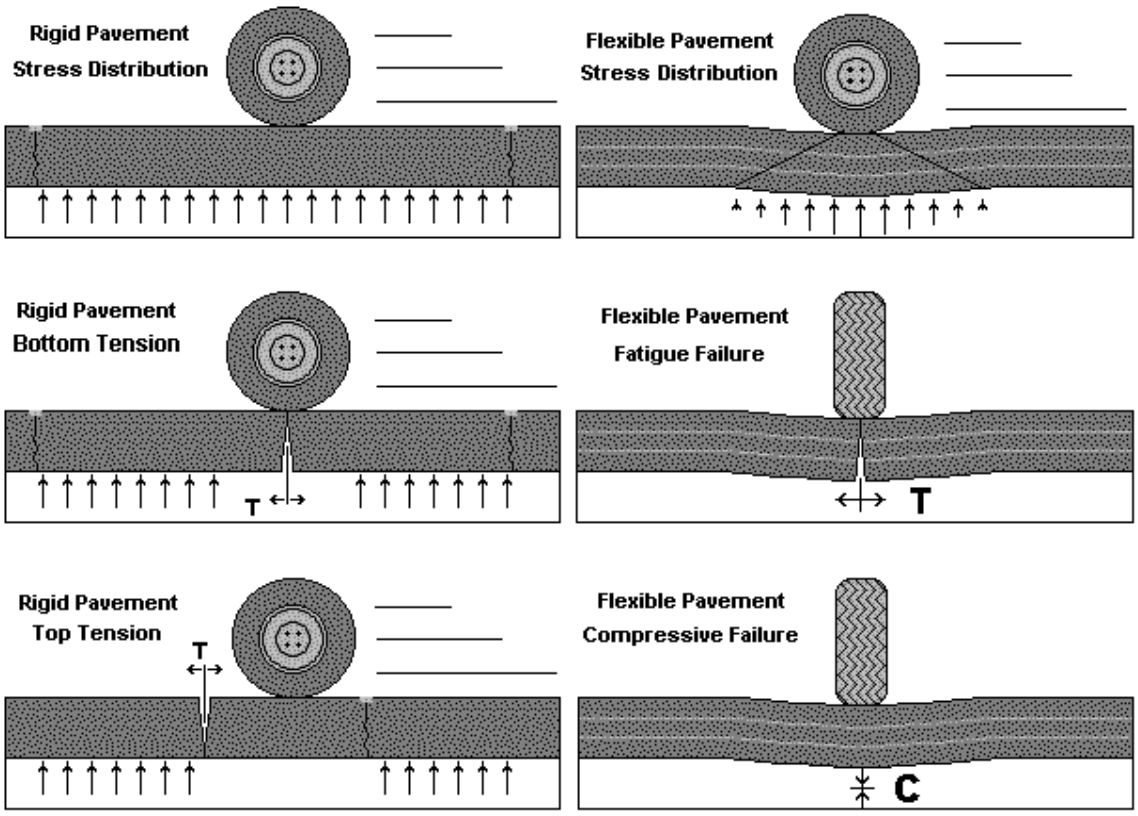
However, if the air voids become too high, air and water can penetrate the pavement, reducing both durability and flexibility. Air infiltration will accelerate oxidization of the binder, while water penetration will increase the moisture susceptibility of the mix (i.e., stripping of the asphalt cement from the aggregate). Air voids in flexible pavement should be kept low enough to prevent water and air from penetrating the asphalt layers, but high enough to minimize the potential of plastic deformation.

Regardless of whether the pavement binder is AC or PCC, binder materials are mixed with aggregate to coat all aggregate particles with a thin binder film. Durability of flexible asphalt pavement is increased with a thicker binder film, and the pavement becomes more resistant to age hardening; however, if the film is too thick, the asphalt acts like a lubricant, promoting ruts, shoving, and bleeding. Each asphalt mix should be customized for materials available locally.

With a concrete pavement, aggregate interlock supports the wheel loads, and the hydrated cement binder further interlocks the aggregate particles to inhibit all movement. “Hydration” is the term for the chemical reaction of portland cement with water. In the hydration process, dry cement particles react with water to form gels, and then crystals, that grow and bond with the aggregate and form a rigid interlocking structure. Hydration can continue for years, but much of the ultimate strength will be reached within 28 days. Hydration is a sensitive chemical process. Typically, any admixtures used to accelerate the hydration process will reduce durability, and admixture use should be considered carefully or avoided.

4.3.3 Load-Related Deterioration

As illustrated below, rigid and flexible pavements differ in the way loads are distributed. A concrete slab resists bending and transfers loads evenly, while an asphalt pavement is designed to bend, gradually spreading loads over wider areas.



Load-related cracks can start at the top or bottom of a pavement section. In asphalt sections, load-related (fatigue) cracks start at the bottom. If a load-related crack reaches the surface, it usually indicates structural deficiency. In rigid pavement, corner breaks are caused by tensile forces at the top of the slab, and the crack propagates downward. Mid-slab LTD cracks are distress examples resulting from tensile forces at the bottom of the slab.

Both wheel loads and environmental factors can cause spalls anytime there is movement between adjacent slabs. If non-compressible material (such as a small rock) is allowed into a joint, stresses will build up between adjacent slabs and can cause a spall. Keeping joint and crack sealant intact can help to reduce the infiltration of non-compressible material and minimize spalling.

4.4 Best Practices

4.4.1 Flexible Pavement

L&T cracks at medium severity should be filled with a good quality crack sealant material. High-severity cracks normally must be patched.

Cracks rated at low severity may be narrow unsealed cracks or sealed cracks up to 3 inches wide. The PCI procedure does not distinguish between narrow unfilled cracks and wider filled cracks. Some L&T cracks at low severity are included in the estimated sealing quantities and costs in this maintenance plan. In general, when medium- or high-severity cracking constitutes less than 25 percent of the total crack quantity, sustaining maintenance usually is more cost-effective. When 25 percent or more of the total crack quantity is at medium or high severity, a restorative program typically becomes more cost-effective.

Existing patches rated as medium and high severity should be replaced with new patches. Small areas (usually less than 100 square feet per patch) of alligator cracking and rutting at medium and high severity also may be repaired cost-effectively by patching. Larger patches should be considered if equipment can be made available to accomplish the work. Patching to repair up to 10 percent of the surface of a pavement feature that is otherwise serviceable can result in significant cost savings as compared to rehabilitation of the entire feature.

An example maintenance policy treatment matrix for flexible pavement is shown in Table 4-8. Examples of various maintenance techniques are provided in appendix B.

4.4.2 Rigid Pavement

Joint seal damage rated at medium and high severity should be repaired. If medium- and high-severity damage is limited to less than about 25 percent of the total joint length, sustaining maintenance is recommended. If medium- and high-severity damage exceeds 25 percent of the total joint length, the joint sealant should be removed and replaced under a restorative repair project.

LTD cracks at low and medium severity should be considered for sealing as part of the joint sealing project. High-severity LTD cracks require sealing, patching, or slab replacement, depending on the extent of deterioration.

Small patches are typically used to repair medium- and high-severity spalls or to replace deteriorated older patches. Restorative small patches are typically partial-depth repairs, usually to a maximum depth of 1/3 the slab thickness. Large patches and corner breaks at medium and high severity should be repaired by full-depth large patches.

High-severity LTD cracks and shattered slabs are candidates for patching and slab replacement. Low-severity shattered slabs can be left in place pending further deterioration.

An example maintenance policy treatment matrix for rigid pavement is shown in Table 4-8. Examples of various maintenance techniques are provided in appendix B.

Table 4-8. General Maintenance Policy (AC)

Distress Type	Distress Severity	Maintenance Action
Alligator Cracking	Low	Crack Sealing - AC
	Medium	Patching - AC Deep
	High	Patching - AC Deep
Bleeding	N/A	Monitor
Depression	Low	Monitor
	Medium	Patching - AC Shallow
	High	Patching - AC Deep
Jet Blast	N/A	Patching - AC Shallow
Longitudinal, Transverse, Joint Reflective, & Block Cracking	Low	Monitor
	Medium	Crack Sealing - AC
	High	Patching - AC Deep
Oil Spill	N/A	Patching - AC Shallow
Patching	Low	Monitor
	Medium	Crack Sealing - AC
	High	Patching - AC Deep
Polished Aggregate	N/A	Monitor
Weathering / Raveling	Low	Monitor
	Medium	Surface Treatment
	High	Patching - AC Shallow
Rutting, Corrugation and Swell	Low	Monitor
	Medium	Patching - AC Deep
	High	Patching - AC Deep
Shoving	Low	Monitor
	Medium	Patching - AC Shallow
	High	Patching - AC Deep
Slippage Cracking	N/A	Patching - AC Shallow

Table 4-9. General Maintenance Policy (PCC)

Distress Type	Distress Severity	Maintenance Action
Blow Up	Low	Patching - PCC Partial Depth
	Medium	Slab Replacement - PCC
	High	Slab Replacement - PCC
Longitudinal, Transverse & Diagonal Cracking	Low	Monitor
	Medium	Crack Sealing - PCC
	High	Patching - PCC Full Depth
Durability Cracking	Low	Monitor
	Medium	Patching - PCC Full Depth
	High	Slab Replacement - PCC
Large Patch & Corner Break	Low	Monitor
	Medium	Patching - PCC Full Depth
	High	Patching - PCC Full Depth
Popout / Shrinkage Cracks	N/A	Monitor
Scaling	Low	Monitor
	Medium	Patching - PCC Partial Depth
	High	Slab Replacement - PCC
Faulting	Low	Monitor
	Medium	Grinding (Localized)
	High	Grinding (Localized)
Shattered Slab	Low	Monitor
	Medium	Crack Sealing - PCC
	High	Slab Replacement - PCC
Joint Spall, Corner Spall & Small Patch	Low	Monitor
	Medium	Patching - PCC Partial Depth
	High	Patching - PCC Partial Depth
Alkali Silica Reaction	Low	Monitor
	Medium	Slab Replacement - PCC
	High	Slab Replacement - PCC

4.5 Pavement Repair Materials

New pavement repair materials are introduced and improved regularly. This section provides information on products compatible with airport needs.

4.5.1 Joint and Crack Sealer

Hot-poured, pressure-injected, polymeric rubberized asphalt sealant meeting ASTM D3405 specifications is suitable for most sealing requirements. This product is relatively inexpensive, durable, and suitable for both rigid and flexible pavements. Other, more expensive, hot-applied sealants that promise longer life are being developed for specialty applications. Twin component cold applied sealants also have been used with success. Contact your local distributor.

4.5.2 Flexible Pavement Patch

High-performance plant mixed cold patching products that can be stockpiled on-site can be used for short term repairs to maintain safety. Long-term patches should be made with high-quality plant mixed hot asphalt having a ¾-inch maximum aggregate size and meeting Federal Aviation Administration (FAA) P401, or highest quality highway specifications. Low-quality packaged materials available from local hardware type stores should be avoided.

4.5.3 Rigid Pavement Patch

Permanent patches in rigid pavement should be made with air-entrained concrete with 1-inch maximum size aggregate. If the area must be quickly opened to traffic, high early concrete should be considered. Concrete should have zero slump and a coarse texture. As with asphalt patches, low-quality packaged materials should be used only as temporary patches to maintain safety and service until a more permanent repair can be made.

4.6 Pavement Repair Equipment

Many pavement repair and sealing products are available. Specialized tools and equipment help ensure high-quality repairs. This section discusses equipment compatible with airport needs.

4.6.1 Air Compressor

Used to remove non-compressible sand and debris from prepared cracks and joints, the compressor should have a sustained capacity of 120 cubic feet per minute with a nozzle velocity of 100 psi. Trailer-mounted compressors typically have capacities in this range.

4.6.2 Concrete Saw

A saw capable of making a minimum 3-inch-deep cut is required. The saw should be capable of making cuts in both asphalt and concrete. Gasoline-powered 5- to 25-hp wheel-mounted saws typically are preferred for this type of work, but electric and pneumatic tools also are available.

4.6.3 Heating Kettle

Applying sealant is the most time-consuming operation, and a sealing machine with heating and pressure application capabilities is a critical item in a successful sealing program. The capacity of the sealing equipment dictates the rate at which a crew progresses. For large sealing projects, a minimum 100-gallons/hour sustained capacity is recommended. The unit should be a double boiler type, with mechanical agitators or continuous recirculation. Kettle temperature must be monitored to ensure that the sealant is not "burned." Overheating the sealant will prematurely age harden the material.

4.6.4 Router

A concrete saw can be used to prepare joints, but for random cracking, a mechanical router with a vertical impact mechanism is preferred. When cracks are being routed, this activity will dictate the speed of the crew. Crack routers in the 25-hp range are commonly used and are available from a variety of manufacturers.

4.6.5 Sand Cleaner

A sand blaster helps to clean loose particles and dust from prepared cracks. The unit must have sufficient force to expose fresh, vital pavement to bond with sealant and patching materials.

4.6.6 Vibratory Roller or Plate Compactor

Required to compact plant mixed and packaged patching materials properly. Small rollers are best for pothole type applications; plate compactors are best for large areas.

4.6.7 Other Equipment

Other general use equipment that can be helpful in a maintenance program includes bucket loaders, dump trucks, water tanks, and a power sweeper unit.

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Appendix A. AIRPAV Software

The Software

Data analysis was performed using the AIRPAV pavement evaluation and management software. In addition to calculating and documenting PCI values, AIRPAV evaluates the collected inspection data and recommends rehabilitation actions that address the cause of pavement distress. AIRPAV can incorporate traffic and structural capacity evaluations into the pavement evaluation matrix, and AIRPAV also performs preliminary life cycle cost analysis of the various rehabilitation alternatives, providing guidance on the lowest annual cost repair strategy.

A complete database, along with an updated version of AIRPAV, is provided on INDOT computers for ongoing management of the INDOT pavement systems.

Capital Improvements

AIRPAV creates interactive CIPs, providing the user with the ability to input unit costs, develop new projects, move projects between years, and even increase or decrease the scope and cost of individual projects.

Maintenance

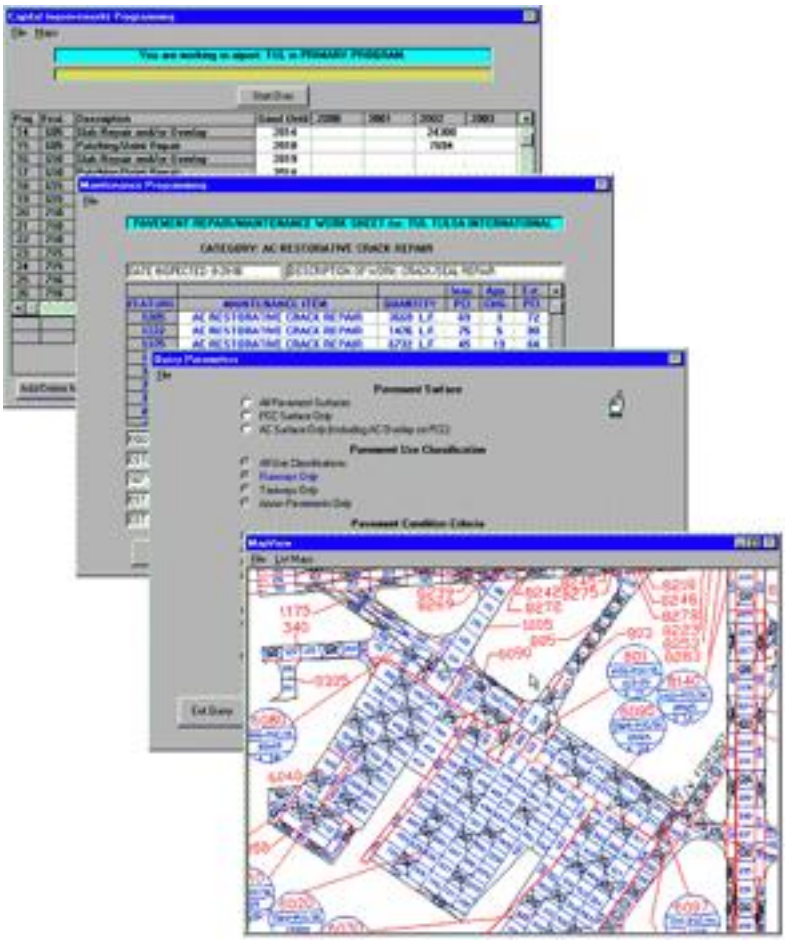
AIRPAV calculates and develops maintenance work orders organized by type of work. Maintenance work orders can be printed and issued directly to maintenance crews.

Traffic

AIRPAV provides the ability to model aircraft ground movements. Traffic can be sorted by airline, aircraft type, destination gate or ramp, and runway used. The program graphically displays each taxi path, accumulates total operations, automatically determines design aircraft, and calculates structural overlay requirements for each pavement feature. The software can provide Pavement Classification Numbers (PCN) for each pavement feature or report results directly as inches of overlay required.

Maps

AIRPAV permits viewing and printing of PCI maps. Inspection layout, pavement condition, and other views are available from within the software.



Query

The AIRPAV query function is a powerful search tool that allows users to extract useful reports meeting various criteria. For example, lists can be created for taxiway pavement, asphalt pavement, or areas below MSL at the time of inspection.

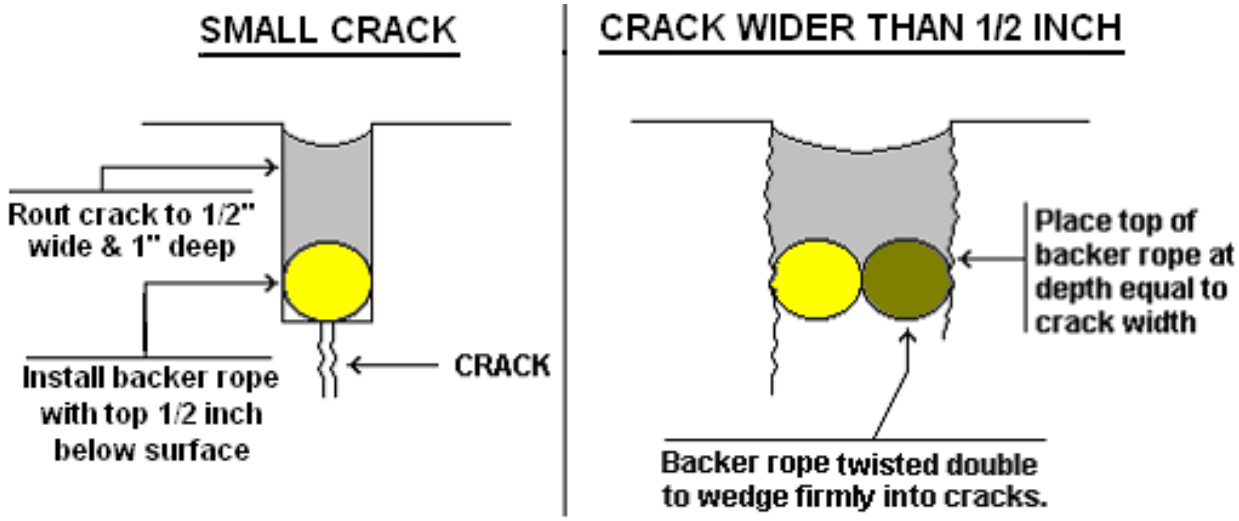
Global Information System (GIS) Integration

AIRPAV is fully GIS-enabled. A single click in AIRPAV exports all data to an MS Access database that can be linked to shape files used in an ESRI product. In this way, virtually all data in the pavement management database can be accessed in GIS format.

Appendix B. General Maintenance Techniques

Crack Sealing

- Cracks over ¼ inches wide should be sealed.
- Cracks wider than 3 inches should be patched.
- Sealant depth above the backer rope should be equal to the width of the reservoir, or as recommended by the manufacturer.
- Routed cracks should be sand blasted, to prepare for bonding with the sealant.
- Clean cracks with compressed air prior to sealing.
- Backing material should always be placed into the cracks. Commercial products are available. Several sizes of rope should be available to accommodate various crack sizes.
- Apply sealant after placing the backer rope. Follow the manufacturer's instructions. Sealant should be applied to within ¼ inch of the pavement surface.
- The final activity is to clean the surrounding pavement areas. A vacuum sweeper works well for this. Allow the sealant time to set before using a broom.
- Consider hot-applied, pourable patch material for cracks > ½ inch and any subsidence or depressions.



Overband Technique

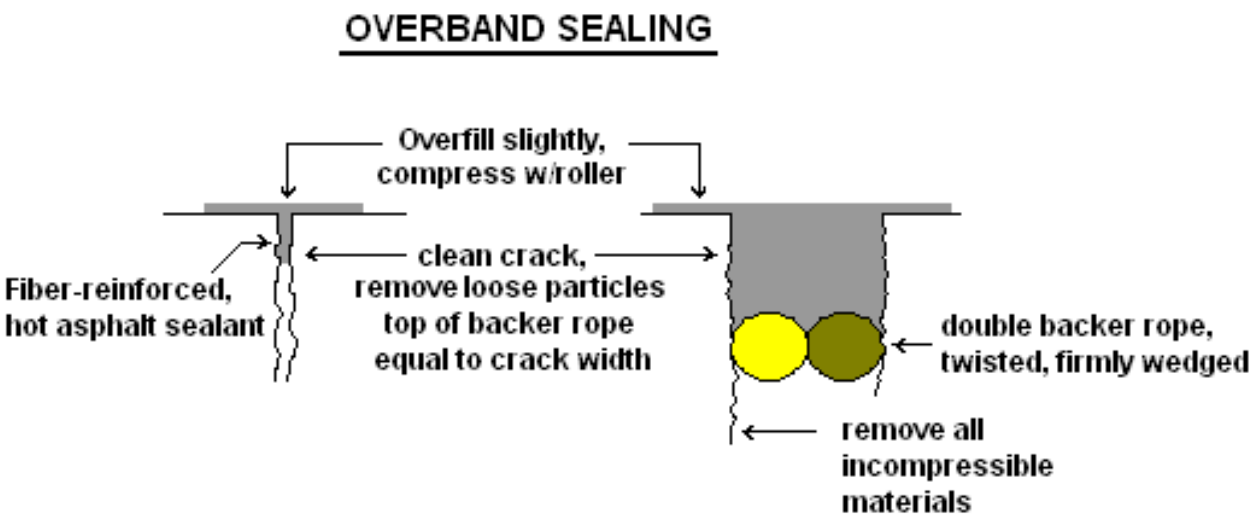
An alternate crack sealing technique using the procedures outlined below.

Material

- Blend grade 20 or equivalent asphalt cement and latex rubber at 5 percent by weight asphalt.
- Again, at 5 percent by weight of asphalt, add polyester fibers into agitator tank.
- Maintain blended asphalt temperature at least 20 degrees below flash point.
- Continuously recycle hot blended asphalt through pumps and hoses when heating kettle is in standby mode.

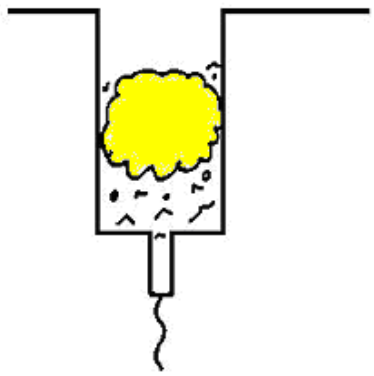
Application

- Sealant should be applied to dry pavement, with ambient temperatures above 40 degrees.
- Cracks should be sand cleaned and blown free of debris immediately before sealing.
- Application of sealant immediately follows cleaning of the crack.
- Sealant should be pressure applied from a wand-type applicator with “overband” nozzle.
- Seat the sealant with a steel-wheeled roller immediately after placement.
- In wider cracks, a backer rope is recommended to limit material quantities required.

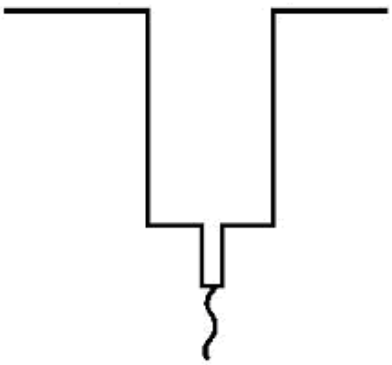


Joint Repair (portland cement)

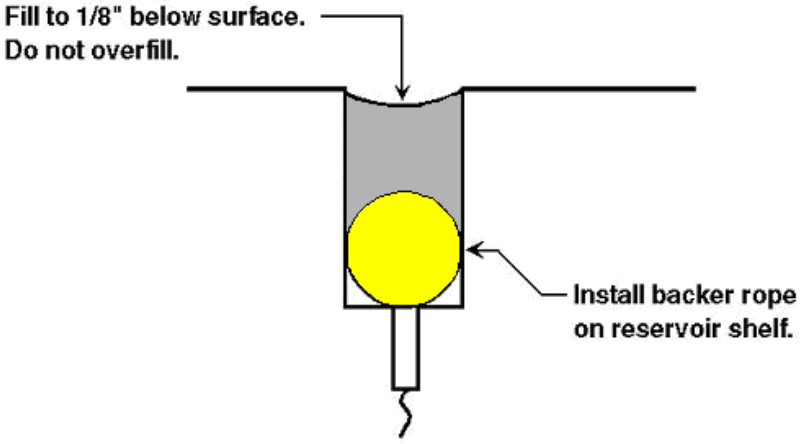
- Rout a reservoir for the sealant ½ inch wide and 1 inch deep.
- Cracks wider than ½ inch should have reservoirs ¼ inch wider than the crack. Reservoir height above backer rope should be less than reservoir width, or as recommended by manufacturer.
- Routed cracks should be cleaned to expose fresh, vital pavement on the vertical crack edge.
- Cracks should be cleaned to remove all sand, debris, and other materials from the crack.
- Backing material should be placed into the crack.
- Apply sealant to within ¼ inch of pavement surface, following manufacturer's instructions.
- Clean the surrounding pavement area.



Typical failed joint sealant, w/ debris and incompressibles.

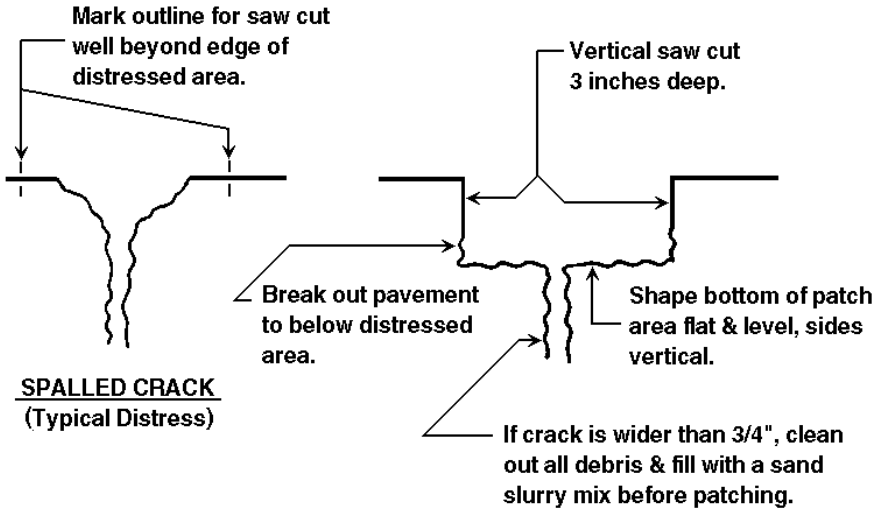


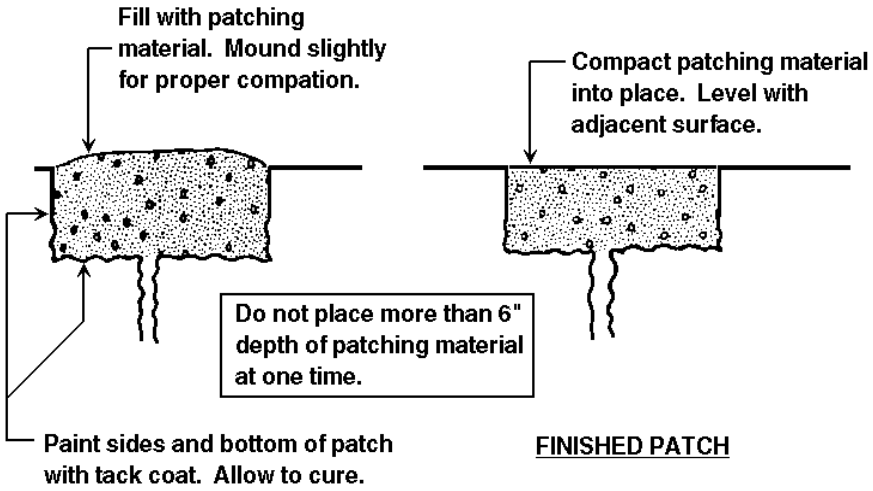
Clean joints exposing fresh, clean concrete and stone. Retain existing resevoir shape.



Patching (bituminous material)

- Examine distressed area and mark patch outline.
- Cut patch area with saw, no less than 3 inches deep.
- Remove enclosed pavement, leaving the vertical sawed edges undamaged.
- Clean sides and bottom and blow out with compressed air
- Paint sides and bottom with rapid curing asphalt tack coat. Prevent pooling on bottom.
- Allow tack coat to cure until it reaches a gummy consistency.
- Place hot mixed asphalt concrete and mound slightly, allowing for compaction.
- Compact with vibratory roller or plate compactor, in layers no greater than 6 inches.

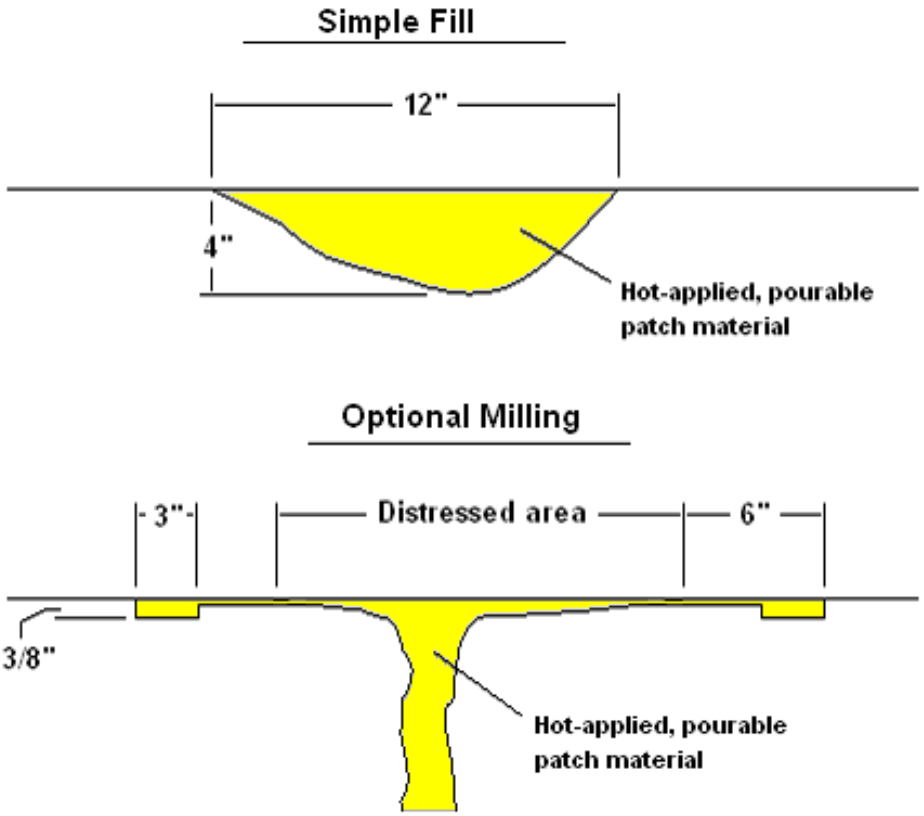




Patching (pourable materials)

Hot-applied, pourable materials generally are used to repair deficiencies larger than can be repaired by sealants, but smaller than those where traditional techniques would be required. Suggested uses for this type of repair include cracks over 2 inches wide, potholes less than 4 inches deep, as a leveling for small depressions, as a cap for settled utility cuts, and as a skin patch for areas of alligator cracking.

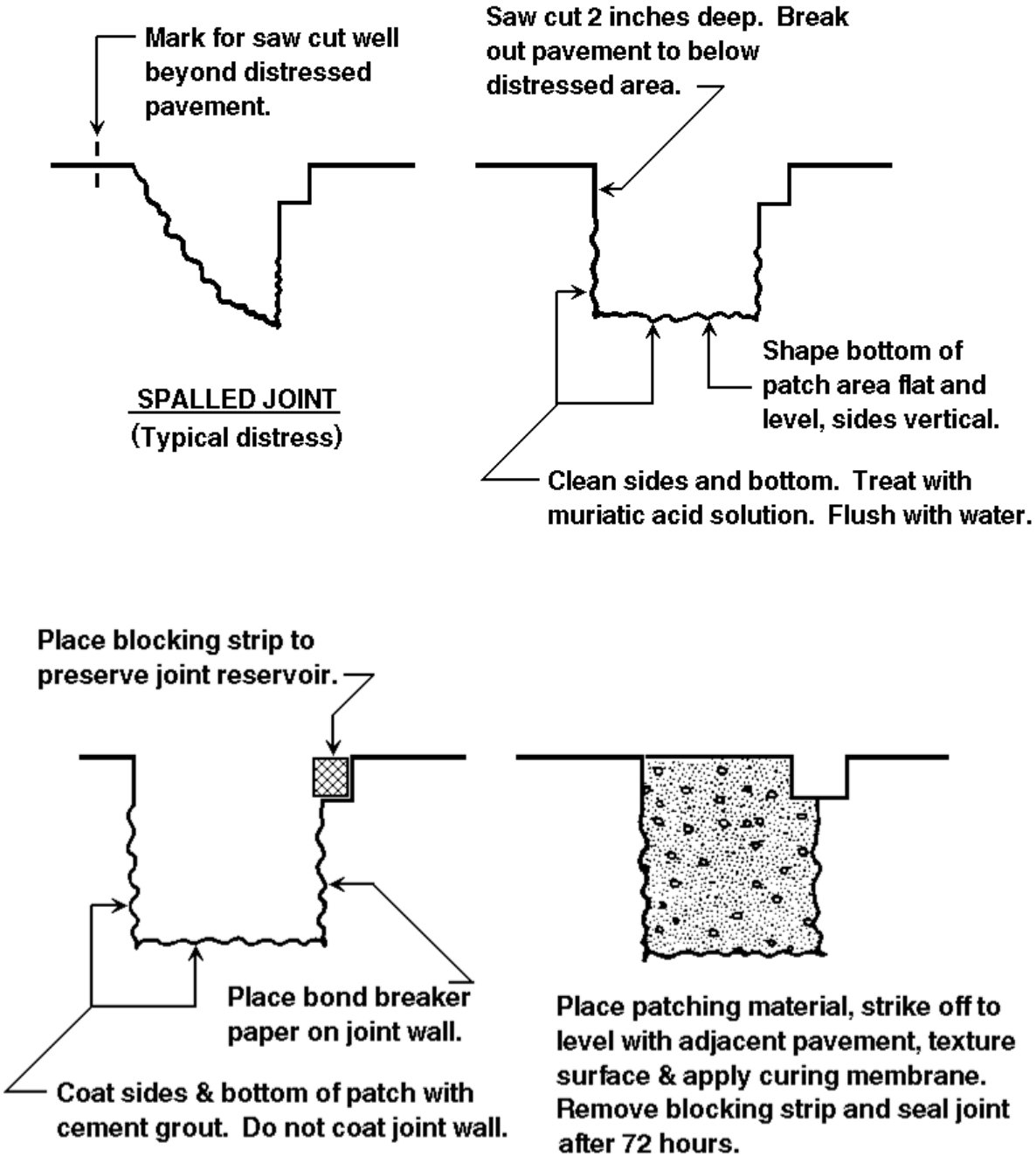
- Examine and mark the patch outline. Boundaries should extend to sound pavement.
- Apply patch material to clean, dry surfaces.
- A heating lance to preheat or dry existing pavement is recommended in cold or wet conditions.
- Patch material should be poured into the area to be repaired and leveled as appropriate.
- Patch edges should be sealed after application to assure good adhesion, preventing surface moisture from migrating under patch edges.



Patching (PCC)

The technique outlined here simulates a thin bonded PCC overlay. This procedure has been proven effective in service throughout the country.

- Examine and mark patch outline.
- Saw cut area to a depth of 2 inches. The enclosed area is then chipped or jack hammered to solid pavement, but not less than a 2-inch nominal depth.
- The sides and bottom are sand cleaned and air-blasted to expose vital, clean concrete.
- A 25 percent solution of muriatic acid is applied to all exposed surfaces within the patch.
- The muriatic acid solution is thoroughly flushed from the patch area with water.
- Compressed air is used to remove excess water from the area, but exposed concrete must be maintained in a moist condition.
- The sides and bottom of the area are then coated with approximately a 1/16-inch layer of cement grout applied at the consistency of paste. The grout acts as an adhesive to bond the fresh concrete to existing concrete.
- If the patch is adjacent to joints, the continuity of the joint must be maintained by placing inserts approximately the shape of the desired joint against the wall of the patch.
- Before concrete grout begins to dry, concrete is placed in the patch area and is compacted into position with hand tampers or a vibrating plate tamper.
- When the patch has been struck to the proper slope and elevation, a surface texture is applied to approximate the texture of adjacent pavement.
- Joint edges may be edged slightly to remove sharp edges. The patch should be covered with polyethylene or sprayed with a curing compound.
- Clean the surrounding pavement before concrete spillover has a chance to set up.
- The patch may be open to traffic in 72 hours.


Mark for saw cut well beyond distressed pavement.
SPALLED JOINT
(Typical distress)
Saw cut 2 inches deep. Break out pavement to below distressed area.
Shape bottom of patch area flat and level, sides vertical.
Clean sides and bottom. Treat with muriatic acid solution. Flush with water.
Place blocking strip to preserve joint reservoir.
Place bond breaker paper on joint wall.
Coat sides & bottom of patch with cement grout. Do not coat joint wall.
Place patching material, strike off to level with adjacent pavement, texture surface & apply curing membrane. Remove blocking strip and seal joint after 72 hours.

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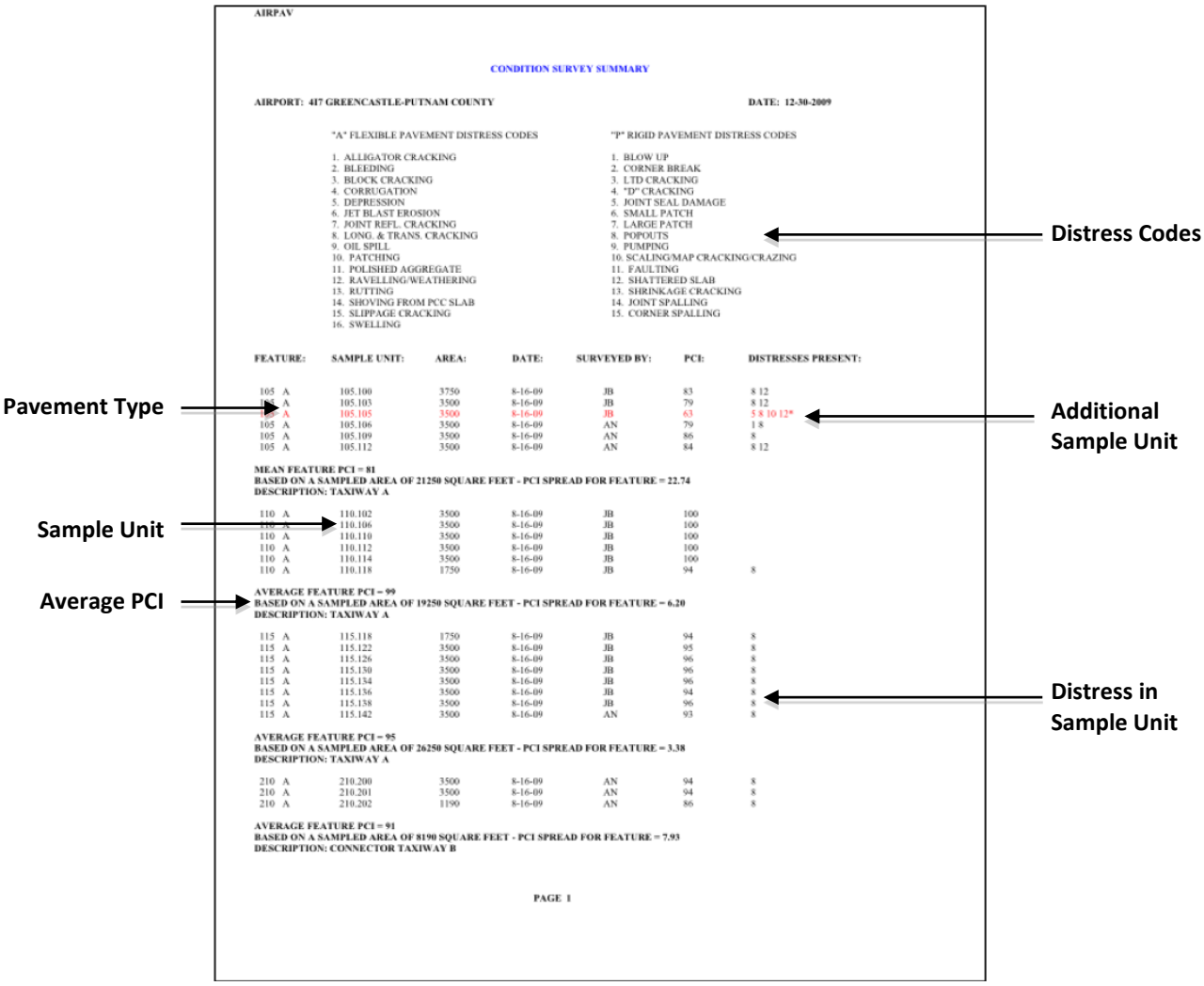
Appendix C. PCI Summary

The PCI summary provides an index of pavement conditions at the airport. The letter in the first column indicates the type of pavement, asphalt or portland cement. The last column lists the distress types found in each sample unit. The distress types are listed by a numbering code for each type of pavement, shown at the beginning of the summary.



Sample units marked with an asterisk (*) are additional sample units. Additional sample units do not represent the typical condition of surrounding sample units in the pavement features.

The PCI summary provides a quick overview of the pavement condition and consistency. Are the distress types similar? Do the individual sample units have consistent PCI ratings? Answering these questions is a start to understanding your dynamic pavement system.

CONDITION SURVEY SUMMARY

AIRPORT: HUF TERRE HAUTE INTERNATIONAL **DATE: 01-06-2016**

"A" FLEXIBLE PAVEMENT DISTRESS CODES

1. ALLIGATOR CRACKING
2. BLEEDING
3. BLOCK CRACKING
4. CORRUGATION
5. DEPRESSION
6. JET BLAST EROSION
7. JOINT REFL. CRACKING
8. LONG. & TRANS. CRACKING
9. OIL SPILL
10. PATCHING
11. POLISHED AGGREGATE
12. RAVELLING
13. RUTTING
14. SHOVING FROM PCC SLAB
15. SLIPPAGE CRACKING
16. SWELLING
17. WEATHERING

"P" RIGID PAVEMENT DISTRESS CODES

1. BLOW UP
2. CORNER BREAK
3. LTD CRACKING
4. "D" CRACKING
5. JOINT SEAL DAMAGE
6. SMALL PATCH
7. LARGE PATCH
8. POPOUTS
9. PUMPING
10. SCALING/MAP CRACKING/CRAZING
11. FAULTING
12. SHATTERED SLAB
13. SHRINKAGE CRACKING
14. JOINT SPALLING
15. CORNER SPALLING
16. ALKALI SILICA REACTION

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
101 A	101.101	3750	9-11-15	EOJ	82	8
101 A	101.102	3750	9-11-15	ABN	76	8
101 A	101.103	3750	9-11-15	ABN	82	8

AVERAGE FEATURE PCI = 80
BASED ON A SAMPLED AREA OF 11250 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.11
DESCRIPTION: TAXIWAY A4

102 P	102.127	7500	9-11-15	ABN	88	5
102 P	102.130	7500	9-11-15	EOJ	84	5 13
102 P	102.133	7500	9-11-15	ABN	80	3 5 13
102 P	102.136	7500	9-11-15	EOJ	81	3 5
102 P	102.139	7500	9-11-15	ABN	68	3 5 15
102 P	102.142	7500	9-11-15	EOJ	88	5
102 P	102.146	7500	9-11-15	EOJ	83	5 6 15
102 P	102.151	7500	9-11-15	ABN	88	5
102 P	102.156	7500	9-11-15	ABN	84	5 15
102 P	102.164	7500	9-11-15	ABN	83	3 5
102 P	102.168	7500	9-11-15	EOJ	88	5
102 P	102.174	7500	9-11-15	EOJ	88	5

AVERAGE FEATURE PCI = 84
BASED ON A SAMPLED AREA OF 90000 SQUARE FEET - PCI SPREAD FOR FEATURE = 20.25
DESCRIPTION: TAXIWAY A

103 P	103.102	7500	9-11-15	EOJ	88	5
103 P	103.104	9650	9-11-15	ABN	87	5 13
103 P	103.109	7500	9-11-15	EOJ	88	5
103 P	103.110	7500	9-11-15	EOJ	88	5
103 P	103.111	7500	9-11-15	ABN	77	3 5

AVERAGE FEATURE PCI = 86
BASED ON A SAMPLED AREA OF 39650 SQUARE FEET - PCI SPREAD FOR FEATURE = 11.11
DESCRIPTION: TAXIWAY A

105 P	105.101	7500	9-11-15	ABN	88	5
105 P	105.103	7500	9-11-15	EOJ	88	5
105 P	105.104	7500	9-11-15	EOJ	88	5

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
105 P	105.106	7500	9-11-15	EOJ	93	5

AVERAGE FEATURE PCI = 89
BASED ON A SAMPLED AREA OF 30000 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.00
DESCRIPTION: TAXIWAY A

106 P	106.102	7500	9-11-15	EOJ	81	5 7
106 P	106.103	7500	9-11-15	EOJ	83	5 14
106 P	106.104	7500	9-11-15	EOJ	88	5

AVERAGE FEATURE PCI = 84
BASED ON A SAMPLED AREA OF 22500 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.99
DESCRIPTION: TAXIWAY C1

107 P	107.103	8000	9-11-15	ABN	88	5
107 P	107.104	9000	9-11-15	ABN	88	5
107 P	107.105	9500	9-11-15	ABN	93	5

AVERAGE FEATURE PCI = 90
BASED ON A SAMPLED AREA OF 26500 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.00
DESCRIPTION: TAXIWAY A

108 P	108.109	8200	9-11-15	ABN	81	5 13 14
108 P	108.112	7500	9-11-15	ABN	88	5
108 P	108.116	7500	9-11-15	ABN	74	3 5
108 P	108.119	7500	9-11-15	EOJ	87	5 13
108 P	108.121	7500	9-11-15	ABN	83	3 5
108 P	108.124	7500	9-11-15	EOJ	88	5

AVERAGE FEATURE PCI = 83
BASED ON A SAMPLED AREA OF 45700 SQUARE FEET - PCI SPREAD FOR FEATURE = 14.28
DESCRIPTION: TAXIWAY A

122 P	122.110	3750	9-11-15	EOJ	88	5
122 P	122.111	7500	9-11-15	EOJ	88	5
122 P	122.112	7500	9-11-15	EOJ	88	5

AVERAGE FEATURE PCI = 88
BASED ON A SAMPLED AREA OF 18750 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00
DESCRIPTION: TAXIWAY A2

125 A	125.102	3750	9-11-15	ABN	92	8
125 A	125.104	3750	9-11-15	ABN	91	8
125 A	125.106	3750	9-11-15	ABN	89	8
125 A	125.107	3750	9-11-15	ABN	88	8

AVERAGE FEATURE PCI = 90
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.62
DESCRIPTION: TAXIWAY A3

127 P	127.109	7500	9-11-15	EOJ	88	5
127 P	127.110	7500	9-11-15	EOJ	88	5

AVERAGE FEATURE PCI = 88
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00
DESCRIPTION: TAXIWAY A3

130 A	130.102	3750	9-11-15	EOJ	92	8
130 A	130.104	3750	9-11-15	EOJ	95	8
130 A	130.105	3750	9-11-15	ABN	95	8
130 A	130.106	3750	9-11-15	ABN	94	8
130 A	130.107	3750	9-11-15	ABN	95	8

AVERAGE FEATURE PCI = 94
BASED ON A SAMPLED AREA OF 18750 SQUARE FEET - PCI SPREAD FOR FEATURE = 2.80
DESCRIPTION: TAXIWAY A2

201 A	201.103	4500	9-11-15	EOJ	49	1 3 8 17
201 A	201.104	4250	9-11-15	ABN	35	1 8 13 17

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
201 A	201.106	3750	9-11-15	ABN	52	1 8 17
201 A	201.108	3750	9-11-15	EOJ	47	1 3 8 17
201 A	201.111	3750	9-11-15	EOJ	25	1 8 17

AVERAGE FEATURE PCI = 42
BASED ON A SAMPLED AREA OF 20000 SQUARE FEET - PCI SPREAD FOR FEATURE = 26.33
DESCRIPTION: TAXIWAY D

202 A	202.102	6450	9-11-15	DMY	38	1 5 8 12 17
202 A	202.104	3750	9-11-15	DMY	27	1 8 12 13

AVERAGE FEATURE PCI = 32
BASED ON A SAMPLED AREA OF 10200 SQUARE FEET - PCI SPREAD FOR FEATURE = 11.20
DESCRIPTION: TAXIWAY B

205 A	205.101	7500	9-11-15	EOJ	95	8
205 A	205.201	7500	9-11-15	ABN	84	8
205 A	205.202	7500	9-11-15	ABN	84	8

AVERAGE FEATURE PCI = 88
BASED ON A SAMPLED AREA OF 22500 SQUARE FEET - PCI SPREAD FOR FEATURE = 11.23
DESCRIPTION: TAXIWAY B

215 P	215.102	10000	9-11-15	ABN	88	5
215 P	215.104	11600	9-11-15	ABN	84	5 6 14

AVERAGE FEATURE PCI = 86
BASED ON A SAMPLED AREA OF 21600 SQUARE FEET - PCI SPREAD FOR FEATURE = 4.22
DESCRIPTION: TAXIWAY B2

220 A	220.101	5000	9-11-15	EOJ	81	8 17
220 A	220.102	5000	9-11-15	EOJ	85	8 17
220 A	220.103	5000	9-11-15	EOJ	90	8 17

AVERAGE FEATURE PCI = 85
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 8.70
DESCRIPTION: TAXIWAY B2

225 P	225.204	9900	9-11-15	EOJ	88	3 5 13
225 P	225.210	7500	9-11-15	EOJ	93	5
225 P	225.215	7500	9-11-15	EOJ	93	5
225 P	225.219	7500	9-11-15	EOJ	93	5
225 P	225.224	7500	9-11-15	ABN	88	5
225 P	225.229	7500	9-11-15	EOJ	88	5
225 P	225.233	7500	9-11-15	ABN	87	5 6
225 P	225.237	7500	9-11-15	EOJ	87	5 13
225 P	225.241	7500	9-10-15	ABN	88	5
225 P	225.246	10000	9-11-15	ABN	78	5 13 15
225 P	225.444	4000	9-11-15	EOJ	93	5
225 P	225.646	4000	9-11-15	EOJ	88	5

AVERAGE FEATURE PCI = 89
BASED ON A SAMPLED AREA OF 87900 SQUARE FEET - PCI SPREAD FOR FEATURE = 14.86
DESCRIPTION: TAXIWAY B

301 A	301.104	5000	9-11-15	DMY	37	1 5 8 10 12 17
301 A	301.106	5000	9-11-15	DMY	42	1 5 8 10 12 17
301 A	301.108	5000	9-11-15	DMY	28	1 5 8 10 12 17
301 A	301.110	5000	9-11-15	DMY	33	1 5 8 10 12 17
301 A	301.112	5000	9-11-15	DMY	37	1 5 8 10 12 17
301 A	301.114	5000	9-11-15	DMY	35	1 5 8 10 12 17

AVERAGE FEATURE PCI = 35
BASED ON A SAMPLED AREA OF 30000 SQUARE FEET - PCI SPREAD FOR FEATURE = 14.21
DESCRIPTION: TAXIWAY C

302 A	302.117	5000	9-11-15	ARA	66	8 17
302 A	302.118	5000	9-11-15	ARA	75	8 17
302 A	302.119	5000	9-11-15	ARA	74	8 17

AVERAGE FEATURE PCI = 72
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 9.00
DESCRIPTION: TAXIWAY C

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
3001 P	3001.099	4400	9-11-15	EOJ	23	2 3 5 11 12 13 14 15
3001 P	3001.103	4400	9-11-15	EOJ	50	3 5 6 13 14 15
3001 P	3001.106	4400	9-11-15	EOJ	51	3 5 6 10 11 13 14 15
3001 P	3001.110	4400	9-10-15	ABN	48	3 5 6 12 14
3001 P	3001.115	4000	9-11-15	ABN	52	3 4 5 6 12 14 15
3001 P	3001.200	4400	9-11-15	EOJ	57	2 5 14 15
3001 P	3001.204	4400	9-11-15	EOJ	75	5 14 15
3001 P	3001.207	4400	9-11-15	EOJ	38	2 3 5 11 12 14 15
3001 P	3001.211	4400	9-11-15	ABN	53	3 5 6 14 15
3001 P	3001.216	4400	9-11-15	ABN	43	2 3 5 6 7 12 14 15 16
3001 P	3001.298	4400	9-11-15	EOJ	59	2 5 11 14 15

AVERAGE FEATURE PCI = 50
BASED ON A SAMPLED AREA OF 48000 SQUARE FEET - PCI SPREAD FOR FEATURE = 52.61
DESCRIPTION: TERMINAL RAMP

3002 P	3002.302	4400	9-11-15	ABN	81	5 15
3002 P	3002.305	4400	9-11-15	ABN	65	3 5 14 15
3002 P	3002.308	4400	9-11-15	EOJ	78	2 5 7 11
3002 P	3002.311	4400	9-11-15	EOJ	35	3 5 12 14
3002 P	3002.314	4400	9-11-15	EOJ	60	2 3 5 6 11 13 15
3002 P	3002.401	4000	9-11-15	ABN	37	3 5 7 12 13 14 15
3002 P	3002.405	4000	9-11-15	ABN	21	3 5 11 12 15
3002 P	3002.408	4000	9-11-15	EOJ	39	2 3 5 12 13 14 15
3002 P	3002.411	4000	9-11-15	EOJ	81	3 5 6 15
3002 P	3002.414	4000	9-11-15	EOJ	66	3 5 6 13 14

AVERAGE FEATURE PCI = 56
BASED ON A SAMPLED AREA OF 42000 SQUARE FEET - PCI SPREAD FOR FEATURE = 59.46
DESCRIPTION: TERMINAL RAMP

3003 P	3003.408	7500	9-11-15	ABN	87	5 6 7
3003 P	3003.410	7500	9-11-15	ABN	79	2 5 11
3003 P	3003.508	7500	9-11-15	ABN	93	5 6 15
3003 P	3003.509	7500	9-11-15	ABN	77	4 5 15
3003 P	3003.609	7500	9-11-15	ABN	87	5 6
3003 P	3003.709	7500	9-11-15	ABN	93	5
3003 P	3003.809	7500	9-11-15	ABN	88	5

AVERAGE FEATURE PCI = 86
BASED ON A SAMPLED AREA OF 52500 SQUARE FEET - PCI SPREAD FOR FEATURE = 16.14
DESCRIPTION: TERMINAL RAMP

3005 P	3005.103	10000	9-11-15	EOJ	68	5 9
3005 P	3005.108	10000	9-11-15	EOJ	88	5
3005 P	3005.200	12500	9-11-15	EOJ	88	5
3005 P	3005.206	10000	9-11-15	EOJ	93	5
3005 P	3005.209	10000	9-11-15	ABN	88	5
3005 P	3005.212	10000	9-11-15	EOJ	88	2 5
3005 P	3005.304	10000	9-11-15	EOJ	79	5 14
3005 P	3005.308	10000	9-11-15	EOJ	93	5
3005 P	3005.406	12500	9-11-15	EOJ	88	5
3005 P	3005.409	10000	9-11-15	EOJ	88	5 6 15

AVERAGE FEATURE PCI = 86
BASED ON A SAMPLED AREA OF 105000 SQUARE FEET - PCI SPREAD FOR FEATURE = 24.54
DESCRIPTION: RAMP

3006 P	3006.350	5000	9-11-15	ABN	87	5 13
3006 P	3006.351	5000	9-11-15	ABN	64	3 5 6 13
3006 P	3006.401	5000	9-11-15	ABN	84	5 14 15
3006 P	3006.402	5000	9-11-15	ABN	83	5 14 15
3006 P	3006.450	5000	9-11-15	ABN	70	3 5 13 14 15

AVERAGE FEATURE PCI = 78
BASED ON A SAMPLED AREA OF 25000 SQUARE FEET - PCI SPREAD FOR FEATURE = 23.49
DESCRIPTION: RAMP

3015 P	3015.312	10000	9-11-15	EOJ	86	5 14

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
3015 P	3015.412	10000	9-11-15	EOJ	93	5
3015 P	3015.511	8000	9-11-15	EOJ	87	5 10 11
3015 P	3015.612	10000	9-11-15	EOJ	83	5 11
3015 P	3015.711	8000	9-11-15	EOJ	75	5 6 11 15

AVERAGE FEATURE PCI = 85
BASED ON A SAMPLED AREA OF 46000 SQUARE FEET - PCI SPREAD FOR FEATURE = 17.75
DESCRIPTION: RAMP

4040 P	4040.201	8000	9-11-15	ABN	72	2 5 13 15
4040 P	4040.203	8000	9-11-15	EOJ	82	5 14 15
4040 P	4040.302	8000	9-11-15	ABN	80	5 7 14 15
4040 P	4040.303	8000	9-11-15	EOJ	82	5 7 13 14

AVERAGE FEATURE PCI = 79
BASED ON A SAMPLED AREA OF 32000 SQUARE FEET - PCI SPREAD FOR FEATURE = 9.51
DESCRIPTION: RUNWAY 23 RUN UP

4205 P	4205.101	15000	9-11-15	EOJ	71	3 5 11 14 15
4205 P	4205.102	15000	9-11-15	EOJ	80	5 11 15
4205 P	4205.103	15000	9-11-15	EOJ	80	5 11 14

AVERAGE FEATURE PCI = 77
BASED ON A SAMPLED AREA OF 45000 SQUARE FEET - PCI SPREAD FOR FEATURE = 8.66
DESCRIPTION: RUNWAY 5 RUN UP

4305 P	4305.101	12500	9-11-15	EOJ	88	5
4305 P	4305.102	12500	9-11-15	ABN	88	5

AVERAGE FEATURE PCI = 88
BASED ON A SAMPLED AREA OF 25000 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00
DESCRIPTION: RUNWAY 36 RUN UP

4310 A	4310.205	5000	9-11-15	ABN	77	8 17
4310 A	4310.207	5000	9-11-15	EOJ	80	8
4310 A	4310.209	5000	9-11-15	EOJ	75	8
4310 A	4310.211	5000	9-11-15	EOJ	76	8

AVERAGE FEATURE PCI = 77
BASED ON A SAMPLED AREA OF 20000 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.03
DESCRIPTION: RUNWAY 36 RUN UP

6140 A	6140.100	5000	9-11-15	ABN	77	8 17
6140 A	6140.200	5000	9-11-15	EOJ	79	8 17
6140 A	6140.201	5000	9-11-15	EOJ	77	8 17
6140 A	6140.300	5000	9-11-15	ABN	79	1 8

AVERAGE FEATURE PCI = 78
BASED ON A SAMPLED AREA OF 20000 SQUARE FEET - PCI SPREAD FOR FEATURE = 2.59
DESCRIPTION: RUNWAY 18-36 TAXI

7005 A	7005.300	5000	9-11-15	EOJ	73	8 17
7005 A	7005.301	5000	9-11-15	EOJ	75	8 17
7005 A	7005.302	5000	9-11-15	EOJ	76	8 17

AVERAGE FEATURE PCI = 74
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 2.96
DESCRIPTION: RUNWAY 14-32 KEEL

7010 A	7010.101	5000	9-11-15	ABN	71	8 17
7010 A	7010.103	5000	9-11-15	ABN	74	8 17
7010 A	7010.500	5000	9-11-15	ABN	80	8 17
7010 A	7010.501	5000	9-11-15	ABN	80	8 17

AVERAGE FEATURE PCI = 76
BASED ON A SAMPLED AREA OF 20000 SQUARE FEET - PCI SPREAD FOR FEATURE = 8.57
DESCRIPTION: RUNWAY 14-32 WING

7015 A	7015.306	5000	9-11-15	ABN	73	8 17

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
7015 A	7015.309	5000	9-11-15	ABN	74	8 17
7015 A	7015.312	5000	9-11-15	ABN	74	8 17
7015 A	7015.319	5000	9-11-15	ABN	79	8 17
7015 A	7015.322	5000	9-11-15	ABN	81	8 17
7015 A	7015.323	2000	9-11-15	ABN	79	8 17

AVERAGE FEATURE PCI = 77
BASED ON A SAMPLED AREA OF 27000 SQUARE FEET - PCI SPREAD FOR FEATURE = 8.02
DESCRIPTION: RUNWAY 14-32 KEEL

7020 A	7020.107	5000	9-11-15	EOJ	84	8 17
7020 A	7020.110	5000	9-11-15	EOJ	76	5 8 17
7020 A	7020.112	5000	9-11-15	EOJ	78	8 17
7020 A	7020.120	5000	9-11-15	EOJ	80	8 17
7020 A	7020.123	2000	9-11-15	EOJ	85	8 17
7020 A	7020.507	5000	9-11-15	EOJ	93	8 17
7020 A	7020.510	5000	9-11-15	EOJ	76	8 17
7020 A	7020.520	5000	9-11-15	EOJ	80	8 17
7020 A	7020.523	2000	9-11-15	EOJ	77	8 17

AVERAGE FEATURE PCI = 81
BASED ON A SAMPLED AREA OF 39000 SQUARE FEET - PCI SPREAD FOR FEATURE = 16.93
DESCRIPTION: RUNWAY 14-32 WING

7025 P	7025.315	5000	9-11-15	EOJ	93	5
7025 P	7025.317	5000	9-11-15	EOJ	93	5 15

AVERAGE FEATURE PCI = 93
BASED ON A SAMPLED AREA OF 10000 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.06
DESCRIPTION: RUNWAY 14-32 KEEL

7030 P	7030.115	5000	9-11-15	ABN	88	5
7030 P	7030.117	5000	9-11-15	ABN	84	5 14
7030 P	7030.515	5000	9-11-15	ABN	88	5
7030 P	7030.517	5000	9-11-15	ABN	88	5

AVERAGE FEATURE PCI = 87
BASED ON A SAMPLED AREA OF 20000 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.82
DESCRIPTION: RUNWAY 14-32 WINGS

7035 A	7035.333	5000	9-11-15	ABN	70	8 17
7035 A	7035.336	5000	9-11-15	ABN	68	8 17
7035 A	7035.339	5000	9-11-15	ABN	80	8
7035 A	7035.342	5000	9-11-15	ABN	72	8 17
7035 A	7035.345	5000	9-11-15	ABN	80	8 17
7035 A	7035.348	5000	9-11-15	ABN	72	8 17
7035 A	7035.351	5000	9-11-15	ABN	71	8 17

AVERAGE FEATURE PCI = 73
BASED ON A SAMPLED AREA OF 35000 SQUARE FEET - PCI SPREAD FOR FEATURE = 12.25
DESCRIPTION: RUNWAY 14-32 KEEL

7040 A	7040.135	5000	9-10-15	EOJ	69	8 17
7040 A	7040.138	5000	9-10-15	EOJ	85	8 17
7040 A	7040.141	5000	9-10-15	EOJ	81	8 17
7040 A	7040.144	5000	9-11-15	EOJ	79	8 17
7040 A	7040.150	5000	9-11-15	EOJ	81	8 17
7040 A	7040.537	5000	9-10-15	EOJ	83	8 17
7040 A	7040.540	5000	9-10-15	EOJ	77	8 17
7040 A	7040.543	5000	9-10-15	EOJ	84	8 17
7040 A	7040.546	5000	9-11-15	EOJ	81	7 8 17
7040 A	7040.552	5000	9-11-15	EOJ	84	8 17

AVERAGE FEATURE PCI = 81
BASED ON A SAMPLED AREA OF 50000 SQUARE FEET - PCI SPREAD FOR FEATURE = 15.82
DESCRIPTION: RUNWAY 14-32 WING

7045 P	7045.356	5000	9-10-15	ABN	75	5 13 15
7045 P	7045.358	5000	9-10-15	ABN	86	5 6

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
7045 P	7045.361	5000	9-10-15	ABN	78	5 6 15
7045 P	7045.364	5000	9-10-15	ABN	79	5 13 15
7045 P	7045.367	5000	9-10-15	ABN	86	5 6
7045 P	7045.370	5000	9-10-15	ABN	77	5 6 13 15

AVERAGE FEATURE PCI = 80
BASED ON A SAMPLED AREA OF 30000 SQUARE FEET - PCI SPREAD FOR FEATURE = 11.43
DESCRIPTION: RUNWAY 14-32 KEEL

7050 P	7050.154	5000	9-10-15	EOJ	88	5
7050 P	7050.157	5000	9-10-15	EOJ	86	5 6
7050 P	7050.160	5000	9-10-15	EOJ	88	5
7050 P	7050.163	5000	9-10-15	EOJ	88	5
7050 P	7050.166	5000	9-10-15	EOJ	84	5 6 13
7050 P	7050.556	5000	9-10-15	EOJ	81	5 6 15
7050 P	7050.559	5000	9-10-15	EOJ	81	5 6 13
7050 P	7050.562	5000	9-10-15	EOJ	84	5 13
7050 P	7050.565	5000	9-10-15	EOJ	76	5 6 13 15
7050 P	7050.568	5000	9-10-15	EOJ	70	5 6 11

AVERAGE FEATURE PCI = 83
BASED ON A SAMPLED AREA OF 50000 SQUARE FEET - PCI SPREAD FOR FEATURE = 18.25
DESCRIPTION: RUNWAY 14-32 WING

7055 A	7055.323	3000	9-10-15	ABN	88	8
7055 A	7055.324	5000	9-11-15	ABN	94	8
7055 A	7055.329	5000	9-11-15	ABN	86	8
7055 A	7055.330	5000	9-10-15	ABN	92	8

AVERAGE FEATURE PCI = 90
BASED ON A SAMPLED AREA OF 18000 SQUARE FEET - PCI SPREAD FOR FEATURE = 7.83
DESCRIPTION: RUNWAY 14-32

7060 A	7060.123	3000	9-10-15	EOJ	97	8
7060 A	7060.124	5000	9-10-15	ABN	95	8
7060 A	7060.129	5000	9-10-15	EOJ	100	
7060 A	7060.130	5000	9-10-15	EOJ	96	8
7060 A	7060.523	3000	9-10-15	EOJ	96	8
7060 A	7060.524	5000	9-10-15	ABN	95	8
7060 A	7060.529	5000	9-10-15	EOJ	97	8

AVERAGE FEATURE PCI = 97
BASED ON A SAMPLED AREA OF 31000 SQUARE FEET - PCI SPREAD FOR FEATURE = 4.99
DESCRIPTION: RUNWAY 14-32

9105 P	9105.100	10000	9-10-15	EOJ	89	6 13
9105 P	9105.300	10000	9-10-15	EOJ	83	6 14 15

AVERAGE FEATURE PCI = 86
BASED ON A SAMPLED AREA OF 20000 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.91
DESCRIPTION: RUNWAY 5-23

9125 A	9125.302	5000	9-10-15	EOJ	94	8
9125 A	9125.306	5000	9-10-15	EOJ	94	8
9125 A	9125.313	5000	9-10-15	EOJ	90	8
9125 A	9125.320	5000	9-10-15	EOJ	85	8
9125 A	9125.327	5000	9-10-15	EOJ	89	8
9125 A	9125.334	5000	9-10-15	EOJ	90	8
9125 A	9125.341	5000	9-10-15	EOJ	88	8
9125 A	9125.348	5000	9-10-15	EOJ	94	8
9125 A	9125.355	5000	9-10-15	EOJ	88	8 10
9125 A	9125.362	5000	9-10-15	EOJ	85	8
9125 A	9125.369	5000	9-10-15	EOJ	89	8
9125 A	9125.376	5000	9-10-15	EOJ	89	8 10
9125 A	9125.383	5000	9-10-15	EOJ	81	8
9125 A	9125.388	5000	9-10-15	EOJ	81	8

AVERAGE FEATURE PCI = 88
BASED ON A SAMPLED AREA OF 70000 SQUARE FEET - PCI SPREAD FOR FEATURE = 13.41
DESCRIPTION: RUNWAY 5-23 KEEL

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
9130 A	9130.102	5000	9-10-15	ABN	94	8
9130 A	9130.106	5000	9-10-15	ABN	94	8
9130 A	9130.113	5000	9-10-15	EOJ	94	8
9130 A	9130.120	5000	9-10-15	ABN	88	8
9130 A	9130.127	5000	9-10-15	ABN	91	8
9130 A	9130.134	5000	9-10-15	ABN	88	8
9130 A	9130.141	5000	9-10-15	ABN	88	8
9130 A	9130.148	5000	9-10-15	ABN	88	8
9130 A	9130.155	5000	9-10-15	ABN	87	8
9130 A	9130.162	5000	9-10-15	ABN	90	8
9130 A	9130.169	5000	9-10-15	ABN	88	8
9130 A	9130.176	5000	9-10-15	ABN	86	8
9130 A	9130.183	5000	9-10-15	ABN	86	8
9130 A	9130.187	5000	9-10-15	ABN	86	8
9130 A	9130.502	5000	9-10-15	ABN	95	8
9130 A	9130.506	5000	9-10-15	ABN	94	8
9130 A	9130.513	5000	9-10-15	EOJ	88	8
9130 A	9130.520	5000	9-10-15	ABN	93	8
9130 A	9130.527	5000	9-10-15	ABN	91	8
9130 A	9130.534	5000	9-10-15	ABN	94	8
9130 A	9130.541	5000	9-10-15	ABN	94	8
9130 A	9130.548	5000	9-10-15	ABN	93	8
9130 A	9130.555	5000	9-10-15	ABN	92	8
9130 A	9130.562	5000	9-10-15	ABN	91	8
9130 A	9130.569	5000	9-10-15	ABN	90	8
9130 A	9130.576	5000	9-10-15	ABN	90	8
9130 A	9130.583	5000	9-10-15	ABN	89	8
9130 A	9130.587	5000	9-10-15	ABN	91	8

AVERAGE FEATURE PCI = 90
BASED ON A SAMPLED AREA OF 140000 SQUARE FEET - PCI SPREAD FOR FEATURE = 9.19
DESCRIPTION: RUNWAY 5-23 WING

TOTAL NUMBER OF INSPECTED FEATURES = 45
TOTAL NUMBER OF INSPECTED SAMPLE UNITS = 267 **TOTAL AREA OF INSPECTED PAVEMENT = 1,590,800 S.F.**

* INDICATES "ADDITIONAL" SAMPLE UNITS.

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Appendix D. Distress Identification

This chapter describes pavement distress types commonly identified during airport PCI inspections.

Rigid Pavement Distress

Longitudinal, Transverse & Diagonal Cracking

LTD cracking is often a result of load or temperature deformations. External loads cause flexure. Temperature changes can cause curling. When any of these stresses exceed the slab strength, cracking occurs.

LTD cracking is recorded at low, medium, or high severity, depending on the width of crack opening and degree of deterioration.

At low severity, a crack is less than 1/8 inch wide with little spalling, and no corrective action is indicated. At medium severity, LTD cracks can be up to 1 inch wide with moderate spalling and should be repaired using procedures similar to joint sealing. At high severity, cracks exceed 1 inch in width and may be severely spalled. High-severity LTD cracking is evidence of serious load failure, and correction may require patching or slab replacement. If distress occurs in several adjacent slabs at medium or high severity, major rehabilitation of that area is indicated.

A slab divided into four or more pieces is said to be “divided” or “shattered.” Shattered slab is a separate distress category and indicates a significant structural failure. A shattered slab has lost its ability to distribute loads. Shattered slabs are rated in three severities, but the recommended action in any case is slab replacement.

Shrinkage Cracking

Shrinkage cracks are small, non-working cracks visible at the pavement surface but not penetrating the full depth of concrete. Shrinkage cracks most commonly occur shortly after construction due to concrete shrinkage during the curing process.

Shrinkage cracks are usually so small that they are not visible until staining or loss of material at crack edges begins to take place. Shrinkage cracks do not represent structural weakness, and no corrective action is prescribed.

Durability Cracking

Durability cracking (D-cracking) is caused by environmental factors, the most common being freeze/thaw. D-cracking usually appears as either a pattern of hairline cracks running parallel to a joint or crack, or in a corner, where water tends to collect. D-cracking eventually leads to disintegration of the pavement, creating foreign object damage (FOD) potential.

At low severity, D-cracking is evident, but no disintegration has occurred. Medium severity is evident over a significant area of the slab, and some disintegration and FOD potential exist. High-severity D-cracking is evidenced by extensive cracking with loose and missing pieces and significant FOD potential.

Joint Spall and Corner Spall

Spalls at slab joints and corners are caused by excessive internal stress in the pavement. Spalls occur when these stresses exceed the shear strength of the concrete.

Spalling usually results from thermal expansion during hot weather when slabs push and expand against one another. If the joints are filled with incompressible material, such as sand, stresses can become severe, causing spalls. Spalling can be reduced significantly by maintenance of joint sealant.

Spall repair requires patching. The extent and severity of spalling suggests the appropriate action. At low severity, spalled concrete remains securely in place in the slab. A low-severity spall should be monitored closely for further deterioration and should be patched when spalled particles become loose, or during the next scheduled patching activity. Medium- and high-severity spalls should be repaired immediately to prevent FOD. If the pavement can be restored to serviceable condition, spalls should be patched for long-term service. If the pavement is beyond repair, temporary patching should be considered to control FOD.

Patches, Large and Small

Large and small patches, by PCI inspection criteria, are distress conditions. Patches indicate deterioration and aging of pavement that contributes to shortened service life. However, patching also indicates that pavement is being maintained.

A patch that is performing well and shows no outward distress is recorded at low severity, and no corrective action is required. Medium-severity patches are serviceable but are beginning to deteriorate. Maintenance or replacement is indicated. At high severity, replacement is indicated.

By definition, small patches are smaller than 5 square feet in surface area, and they usually result from spall repair at slab joints and corners.

Large patches also may be the result of spall repair, but they often indicate more serious deficiencies, such as corner breaks or other full-depth failure smaller than panel size.

Joint Seal Damage

When joint sealant is in perfect condition (no damage), there is no distress.

At low severity, at least 10 percent of the sealant is debonded but still in contact with the joint edges. Medium-severity joint seal damage is recorded when at least 10 percent of the sealant has visible gaps smaller than 1/8 inch and is an indicator that replacement should be programmed as soon as is practical. In the meantime, aggressive inspection and sustaining maintenance is recommended to minimize subsurface damage from moisture penetration. At high severity, visible gaps exceed 1/8 inch, and the amount and degree of joint seal damage typically requires complete removal and replacement of the existing sealant.

On serviceable pavement, deteriorated joint sealant should be repaired or replaced to preserve pavement and subgrade integrity and prolong service life. The issue is not so clear-cut with unserviceable pavement. Pavement that can be restored to serviceable condition by maintenance activities such as patching and joint seal repair, or by slab replacement, should be so maintained as long as the process is cost-effective. However, when age and condition preclude economical return to serviceable condition by such means, joint seal repair would no longer be cost-effective and should be suspended except for an interim maintenance program to control FOD potential.

Flexible Pavement Distress

Longitudinal & Transverse Cracking

L&T cracks are caused by age, construction, and subsurface conditions. Age-related cracking occurs as oxidizing pavement loses components to the atmosphere and becomes more brittle. Consistent application of seal coats can help to prevent age-related cracks.

Construction-related cracking often develops along paving joints. Ensuring that joints are made when both sides are still hot, and near the same temperature, is one of the best ways to mitigate this potential problem.

Seasonal movement caused by changes in subsurface moisture or temperature differences also can cause pavement cracking. Asphalt pavement placed over a PCC pavement or cement stabilized base course may evidence reflective cracking from the underlying material. Wheel loads do not cause L&T cracks, although traffic may worsen their condition.

Low-severity L&T cracks are less than ¼ inch wide, or if sealed with suitable filler material in satisfactory condition can be any width less than 3 inches, if they are not spalled. Maintenance usually is not indicated for low-severity cracking. Moderately spalled cracks and cracks wider than ¼ inch which are not satisfactorily sealed are at medium severity. Medium-severity cracks should be sealed with a high-quality crack filling material. Severely spalled cracks and cracks wider than 3 inches are at high severity. High-severity L&T cracks normally require patching.

Alligator Cracking

Alligator cracks are a series of interconnected load-related cracks caused by fatigue of the asphalt surface. Alligator cracking is a significant structural distress and develops only in places subject to traffic loads. These cracks typically initiate at the bottom of the asphalt layer and propagate upward. Once a fatigue crack is visible at the surface, significant damage has already occurred.

At low severity, alligator cracks are evidenced by a series of parallel hairline cracks (usually in a wheel path). Medium-severity alligator cracking is a well-defined pattern of interconnected cracks, and some spalling may be present. High-severity alligator cracks have lost aggregate interlock between adjacent pieces, and the cracks may be severely spalled with FOD potential. Most likely, the pieces will move freely under traffic.

Alligator cracking is a serious structural failure that cannot be repaired with sealant. The proper repair is patching.

Raveling/Weathering

Raveling and weathering are the wearing away of the pavement surface. Failure can be caused by the dislodging of aggregate particles or the loss of asphalt binder. These distresses are usually evident over large areas and may indicate that the asphalt binder has hardened significantly.

Raveling is the loss of coarse aggregate, weathering is the loss of fine aggregate or binder.

Raveling: At low severity, 5 to 20 coarse aggregate particles are missing per square yard. Medium severity is defined by 20 to 40 missing coarse aggregate particles per square yard. At high severity, more than 40 coarse aggregate particles are missing per square yard, and the top layer of aggregate has eroded away.

Weathering: At low severity, edges of coarse aggregate are exposed less than 1 mm. At medium severity, loss of fine aggregate is noticeable and edges of coarse aggregate are exposed up to 6 mm (1/4 inch). High severity weathering has edges of coarse aggregate exposed > 6 mm, with considerable loss of fine aggregate matrix and potential for loss of coarse aggregate.

Rutting

Ruts are localized areas of pavement having elevations lower than the surrounding sections.

Rutting is due to base and subgrade consolidation caused by excessive wheel loads or poor compaction. Ruts indicate structural failure and can cause hydroplaning.

At low severity, ruts have an average depth of ¼ to ½ inches. At medium severity, ruts have an average depth of ½ to 1 inch. At high severity, ruts have an average depth greater than 1 inch. Patching is the appropriate repair for ruts.

Appendix E. Feature Analysis

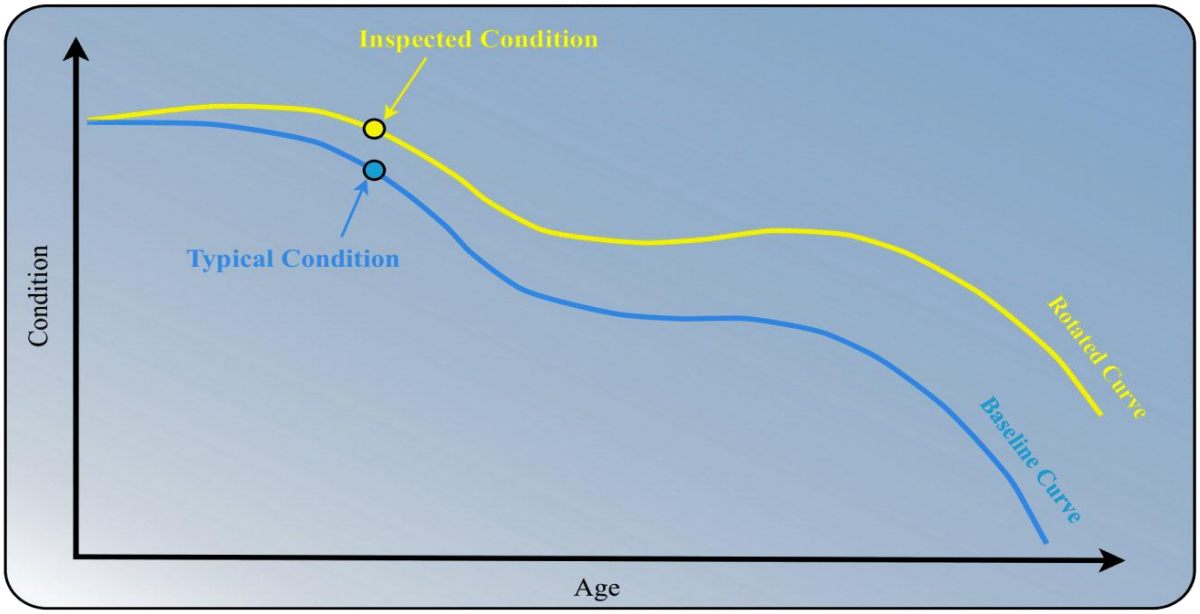
Pavement Performance Models

Projected performance is determined by relating current pavement condition to expected pavement condition. Projected performance varies based on pavement type. There are four pavement types in Indiana: AC, PCC, AAC, and APC. Each pavement type has a unique deterioration curve, created by plotting all data for that group as PCI vs. age and then finding a performance curve to best fit the data. These curves represent the historic performance of pavement in the group and become the baseline for future projections. The baseline curves are modeled with a third order polynomial equation as shown below.

$$PCI = X(Age)^3 + Y(Age)^2 + Z(Age)^1 + C$$

Current Condition (rotating the curves)

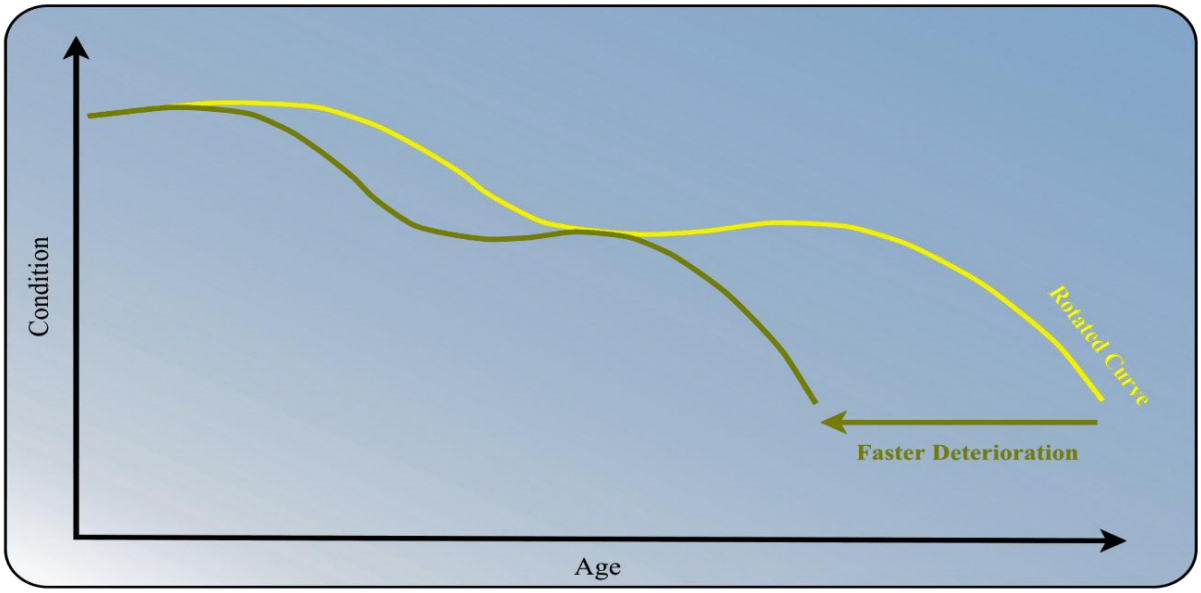
Starting with the baseline curve for comparison, current pavement condition is plotted, and the baseline curve is rotated to meet the current condition. The rotated curve provides the starting point for projecting the future pavement condition.



Advanced Analysis (accounting for distress)

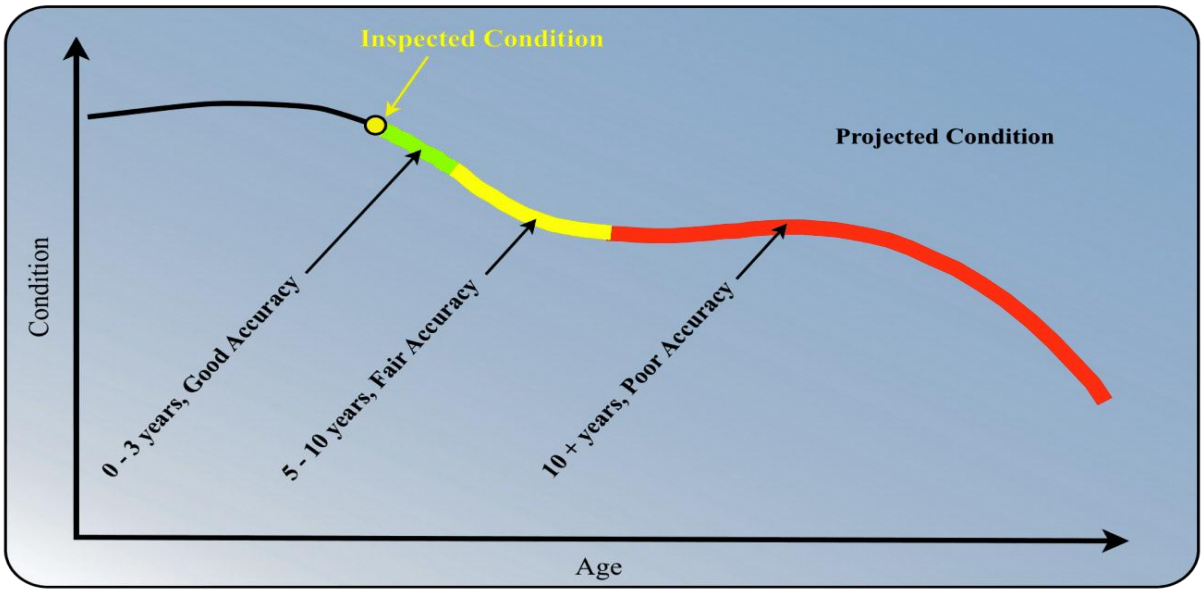
Some types of pavement distress have a greater impact on pavement deterioration than others. Rutting and alligator (fatigue) cracking are major structural failures and can lead to rapid pavement deterioration. Other distress types, like L&T cracking, develop slowly over time and typically do not cause a significant deviation from the baseline curve.

After current condition is accounted for with the curve rotation, pavement distress is addressed in the advanced analysis by compressing or expanding the baseline curve to account for the expected rate of pavement deterioration.



Projected PCI (near term vs. longer term)

Projecting pavement condition with advanced analysis is a combination of rotating, expanding, and contracting the baseline curves. This projection method provides good short-term results for all pavement sections and fair long-term projections on pavement sections with conditions near the baseline model. The long-term accuracy of outlier data is discussed on the following page.

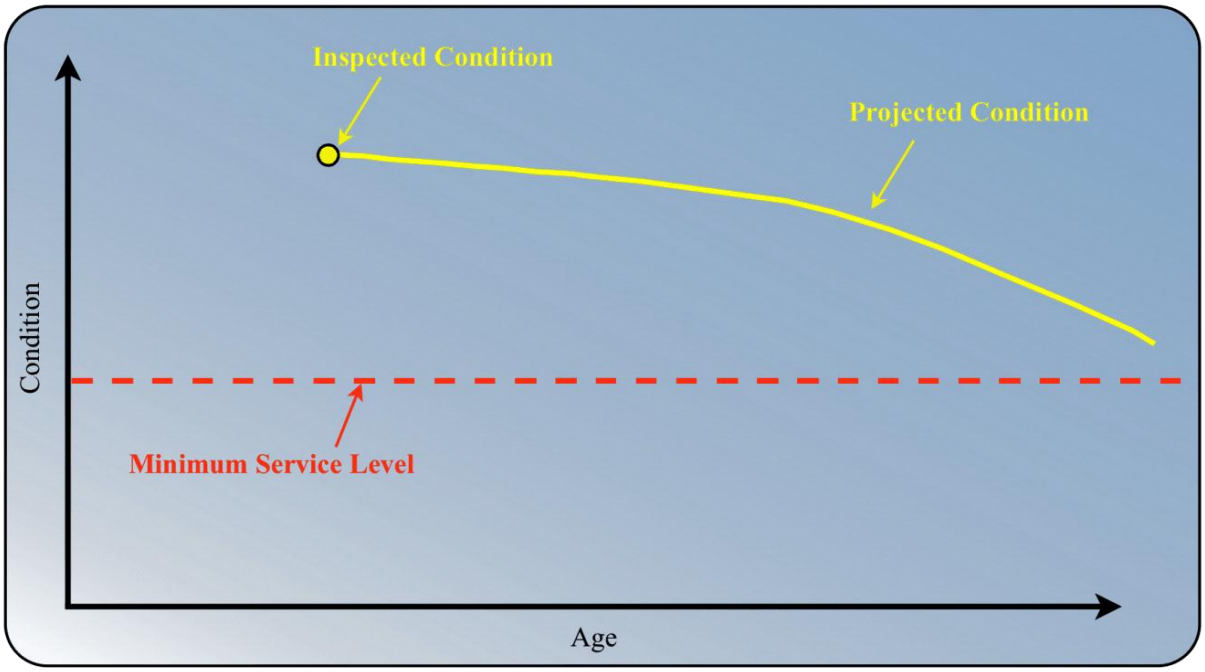


Projected PCI (why some features have unexpected projections)

Long-term PCI projections can be very useful for planning purposes. However, projections in excess of 10 years are well beyond the intended scope of the PCI procedure. FAA Advisory Circular 150/5380-6B establishes a maximum 3-year interval between detailed PCI surveys.

Curve rotation, expansion, and contraction are performed to produce the best possible accuracy of future pavement condition over the next 3 to 5 years. This methodology can overemphasize certain performance trends in the long term. This is especially true for outlier data, such as pavement features that are performing much better or worse than is typical.

The curve below shows an example of a performance trend being overemphasized in the long-term projection. Because the pavement feature is performing much better than the baseline curve, the long-term projection shows the pavement lasting an additional 30+ years before reaching the MSL. Rotation of the curve to provide the most accurate projection over 3 to 5 years has resulted in a long-term projection that is likely unrealistic.



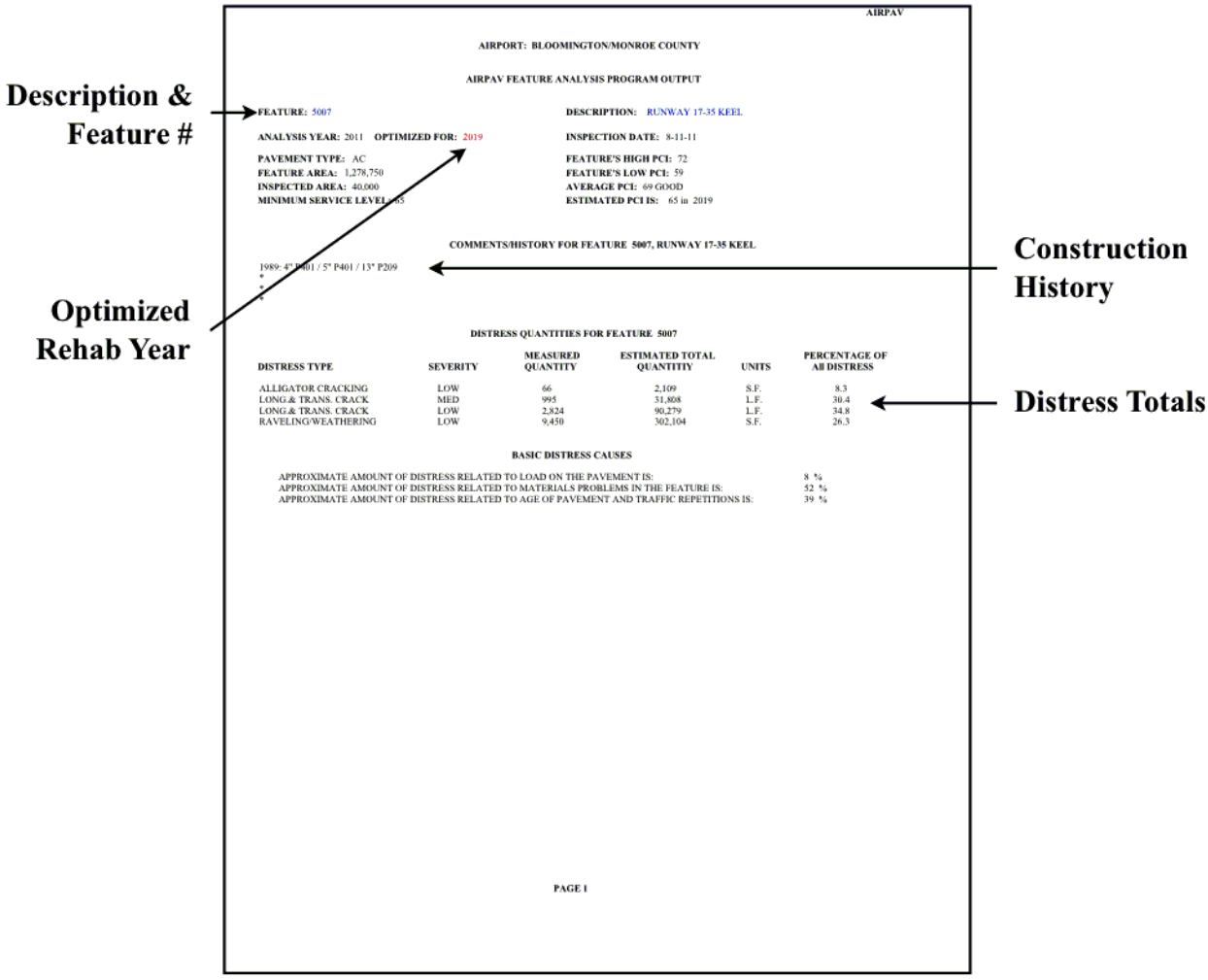
When long-term projections such as this are encountered, airport managers should not rely on projections in excess of 10 years. Managers can be confident that the pavement is performing much better than average and will not require rehabilitation within the current 5-year CIP planning window. As new distress develops over time, future PCI surveys will determine the ideal timing for rehabilitation.

Feature Analysis

As part of the PCI evaluation, a detailed analysis is presented for each airside pavement feature using the two-page format depicted below.

Page 1

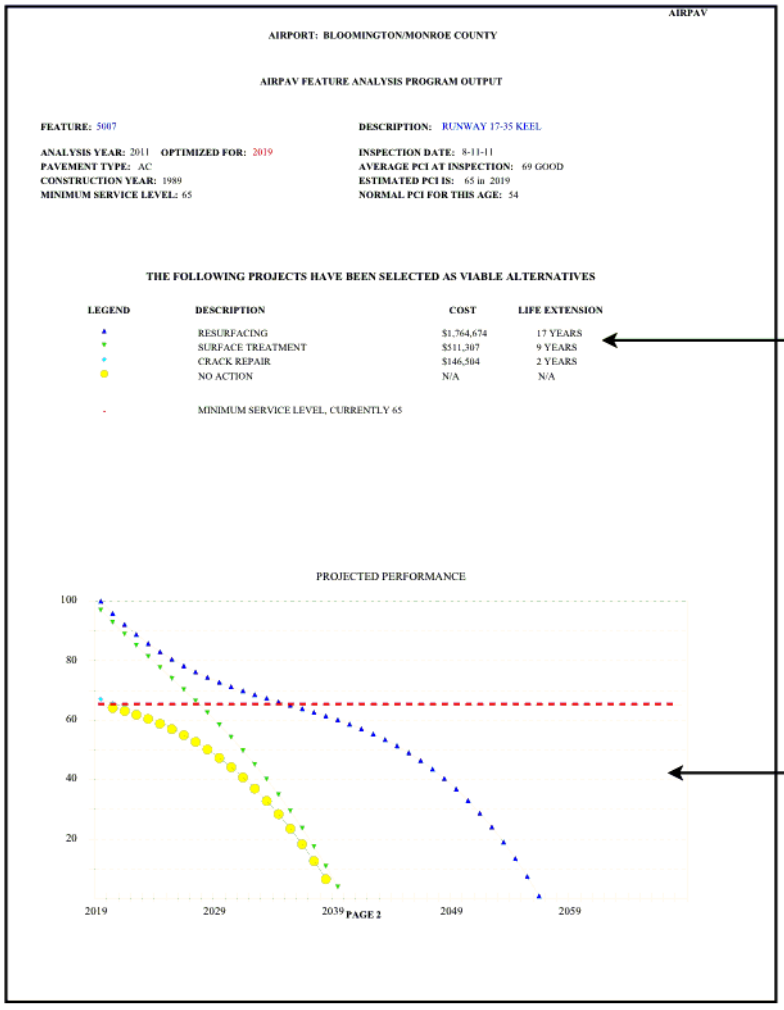
The first page of the analysis is a feature summary. Located near the top left-hand corner is the feature number and pavement description. Construction history and inspector comments are listed below, along with a photo of the pavement section if available. Distress totals recorded during the PCI survey are listed next, and an approximation of the cause of the pavement deterioration is shown at the bottom. If the pavement is projected to fall below the desired MSL during the next 12 years, the analysis year will be shown along with the optimum year for pavement rehabilitation.



Page 2

The second page is a graphic analysis of pavement deterioration. Pavement deterioration is forecast based on historic deterioration of similar Indiana pavement types. Remaining life is projected by stretching and rotating the baseline curves to fit the current condition determined from the PCI survey.

When pavement condition drops below the desired MSL, the software selects rehabilitation actions that address the cause of the pavement failure while restoring the pavement to a condition above the MSL. A NO ACTION recommendation indicates that the feature is expected to remain serviceable during the 12-year forecasting period without major repairs. NO ACTION recommendations do not diminish the need for regular maintenance.


AIRPAV

AIRPORT: BLOOMINGTON/MONROE COUNTY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 5007 DESCRIPTION: RUNWAY 17-35 KEEL

ANALYSIS YEAR: 2011 OPTIMIZED FOR: 2019
PAVEMENT TYPE: AC
CONSTRUCTION YEAR: 1989
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 8-11-11
AVERAGE PCI AT INSPECTION: 69 GOOD
ESTIMATED PCI IS: 65 in 2019
NORMAL PCI FOR THIS AGE: 54

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$1,764,674	17 YEARS
▼	SURFACE TREATMENT	$511,307	9 YEARS
◆	CRACK REPAIR	$146,504	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE

100
80
60
40
20
2019 2029 2039 2049 2059

PAGE 2

Recommended Actions

Graphic Analysis

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 101 **DESCRIPTION:** TAXIWAY A4

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15

PAVEMENT TYPE: AC - **FEATURE'S HIGH PCI:** 82
FEATURE AREA: 21,126 **FEATURE'S LOW PCI:** 76
INSPECTED AREA: 11,250 **AVERAGE PCI:** 80 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 80 in 2015

COMMENTS/HISTORY FOR FEATURE 101, TAXIWAY A4

2009 AC MILL AND OVERLAY
1989 - BIT. OVERLAY/1979 - 3" BIT. OVERLAY
1953 - 11" PCC
*

DISTRESS QUANTITIES FOR FEATURE 101

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	3	5	L.F.	6.7
LONG.& TRANS. CRACK	LOW	810	1,521	L.F.	93.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

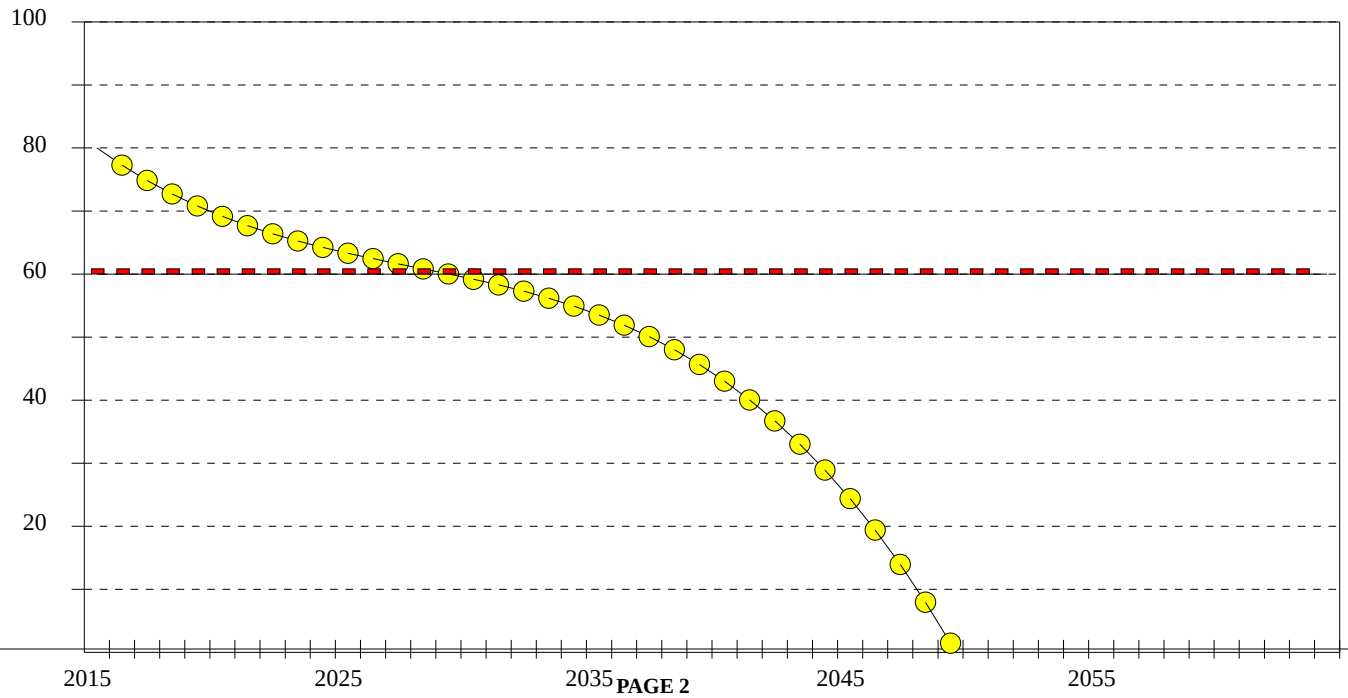
FEATURE: 101 **DESCRIPTION:** TAXIWAY A4

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15
PAVEMENT TYPE: AC - **AVERAGE PCI AT INSPECTION:** 80 SATISFACTORY
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 80 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 71

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 102 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 431,770 **FEATURE'S LOW PCI:** 68
INSPECTED AREA: 90,000 **AVERAGE PCI:** 84 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2026

COMMENTS/HISTORY FOR FEATURE 102, TAXIWAY A

1988 14" PCC Overlay
*
*
*

DISTRESS QUANTITIES FOR FEATURE 102

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	MED	1	4	SLABS	7.6
LONG/TRAN/DIAG CRK.	LOW	4	19	SLABS	11.7
JOINT SEAL DAMAGE	HIGH	144	690	SLABS	66.6
PATCH<5 SF	LOW	1	4	SLABS	.4
SHRINKAGE CRACKS	N/A	5	24	SLABS	3.1
SPALLING-CORNERS	HIGH	2	9	SLABS	6.9
SPALLING-CORNERS	LOW	2	9	SLABS	3.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 10 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 28 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 63 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 102 **DESCRIPTION:** TAXIWAY A

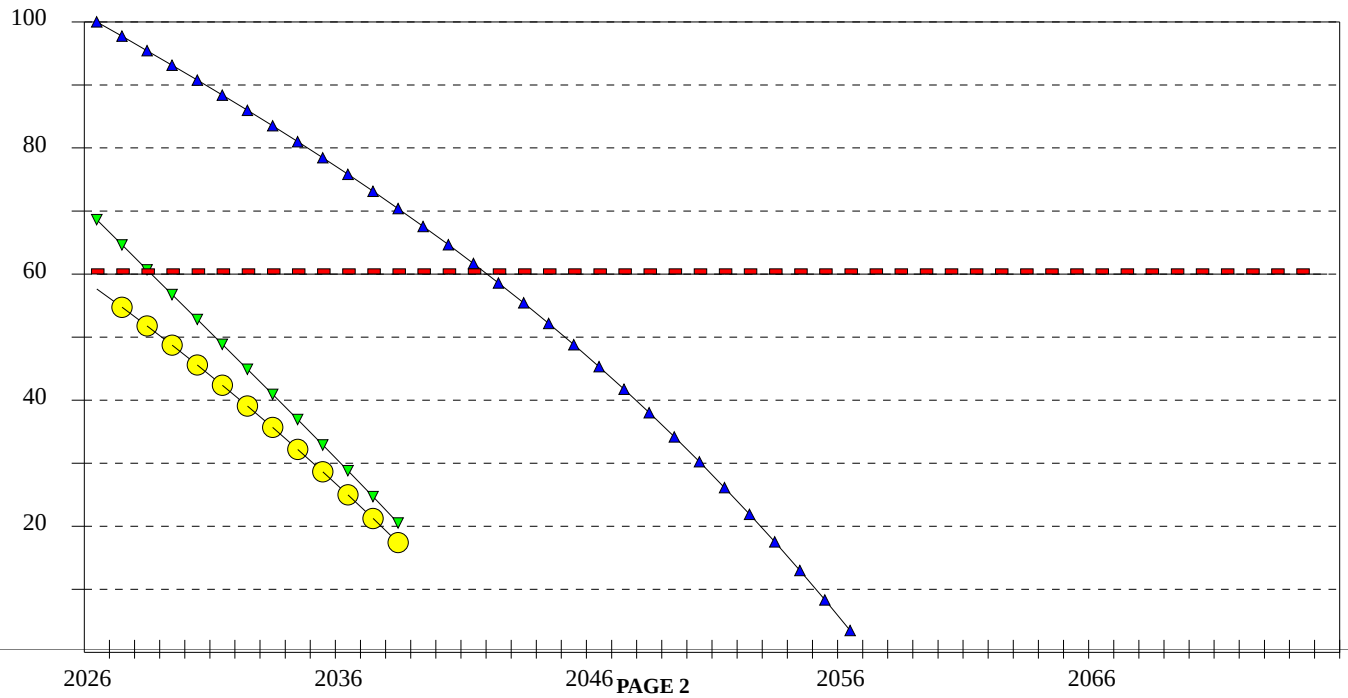
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1988
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 84 SATISFACTORY
ESTIMATED PCI IS: 58 in 2026
NORMAL PCI FOR THIS AGE: 31

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$2,379,052	16 YEARS
▼	PATCHING/JOINT REPAIR	$78,923	3 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 103 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 132,716 **FEATURE'S LOW PCI:** 77
INSPECTED AREA: 39,650 **AVERAGE PCI:** 86 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 86 in 2015

COMMENTS/HISTORY FOR FEATURE 103, TAXIWAY A

1989 PCC 15"/6" stabilized base
*
*
*

DISTRESS QUANTITIES FOR FEATURE 103

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	MED	1	3	SLABS	21.3
JOINT SEAL DAMAGE	HIGH	64	214	SLABS	77.2
SHRINKAGE CRACKS	N/A	1	3	SLABS	1.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	7 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	26 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	66 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

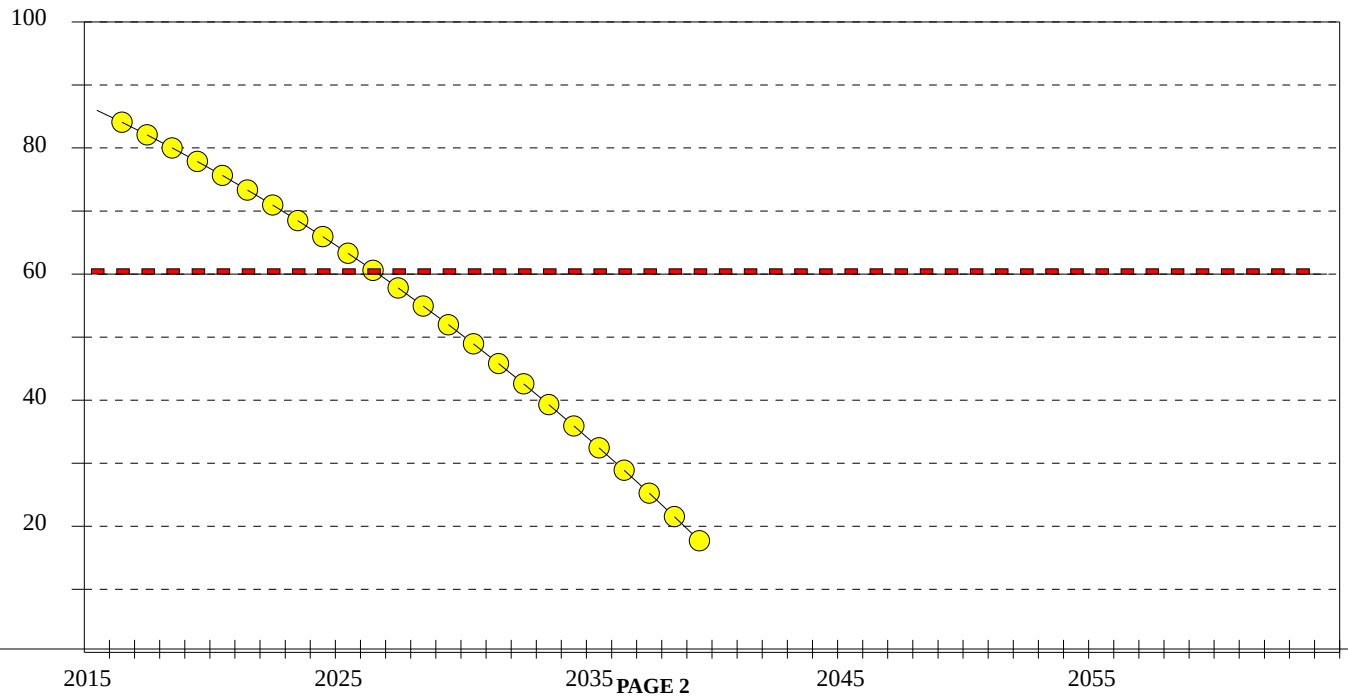
FEATURE: 103 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 86 GOOD
CONSTRUCTION YEAR: 1989 **ESTIMATED PCI IS:** 86 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 64

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 105 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 61,930 **FEATURE'S LOW PCI:** 88
INSPECTED AREA: 30,000 **AVERAGE PCI:** 89 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 89 in 2015

COMMENTS/HISTORY FOR FEATURE 105, TAXIWAY A

1989 PCC 15"/ 6" Stabilized base
*
*
*

DISTRESS QUANTITIES FOR FEATURE 105

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	36	74	SLABS	83.7
JOINT SEAL DAMAGE	MED	12	24	SLABS	16.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	67 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

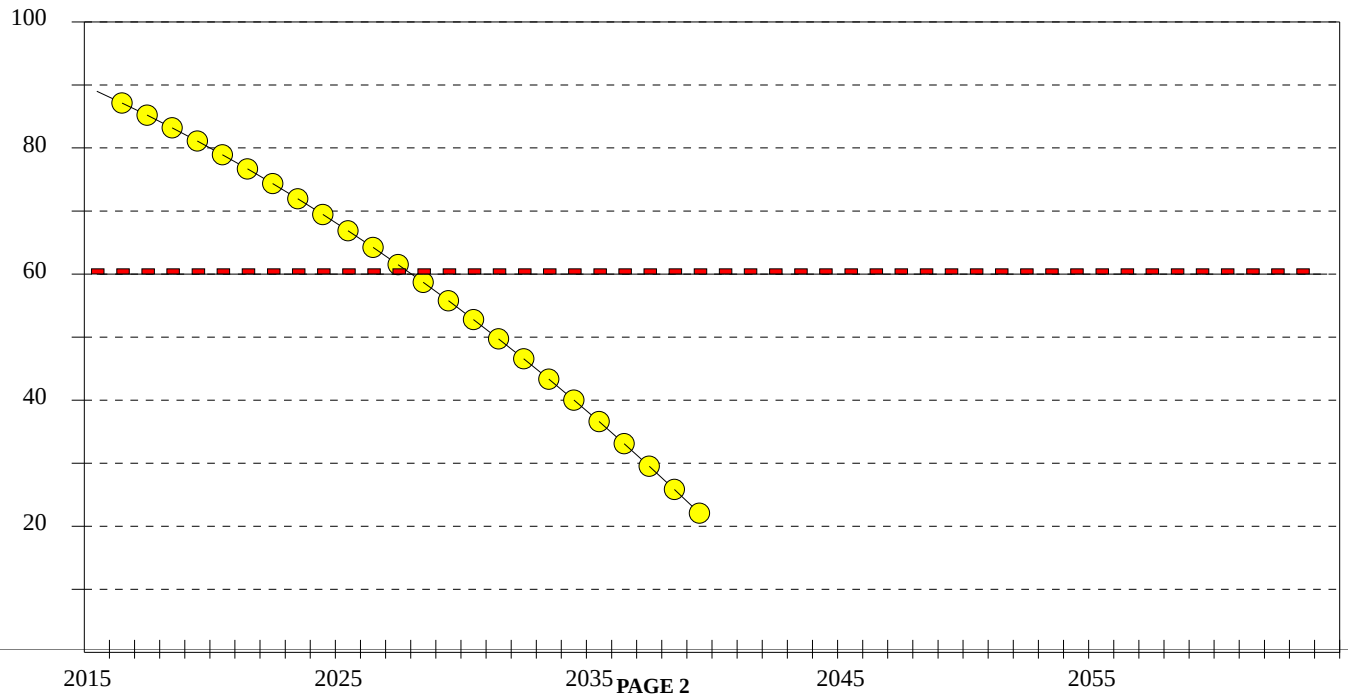
FEATURE: 105 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 89 GOOD
CONSTRUCTION YEAR: 1989 **ESTIMATED PCI IS:** 89 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 64

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 106 **DESCRIPTION:** TAXIWAY C1

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 48,372 **FEATURE'S LOW PCI:** 81
INSPECTED AREA: 22,500 **AVERAGE PCI:** 84 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 84 in 2015

COMMENTS/HISTORY FOR FEATURE 106, TAXIWAY C1

1997 PCC
1975 - 3" BIT. OVERLAY/1968 - 0.25" BIT. SURFACE TREATMENT
1964 - 1.5" BIT. OVERLAY
1943 - 2" BIT. SURFACE ON 8" COLD BIT. BASE

DISTRESS QUANTITIES FOR FEATURE 106

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	36	77	SLABS	66.8
PATCH>5 SF/UTIL.CUT	LOW	3	6	SLABS	21.8
SPALLING-JOINTS	MED	1	2	SLABS	11.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	15 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	30 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	56 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

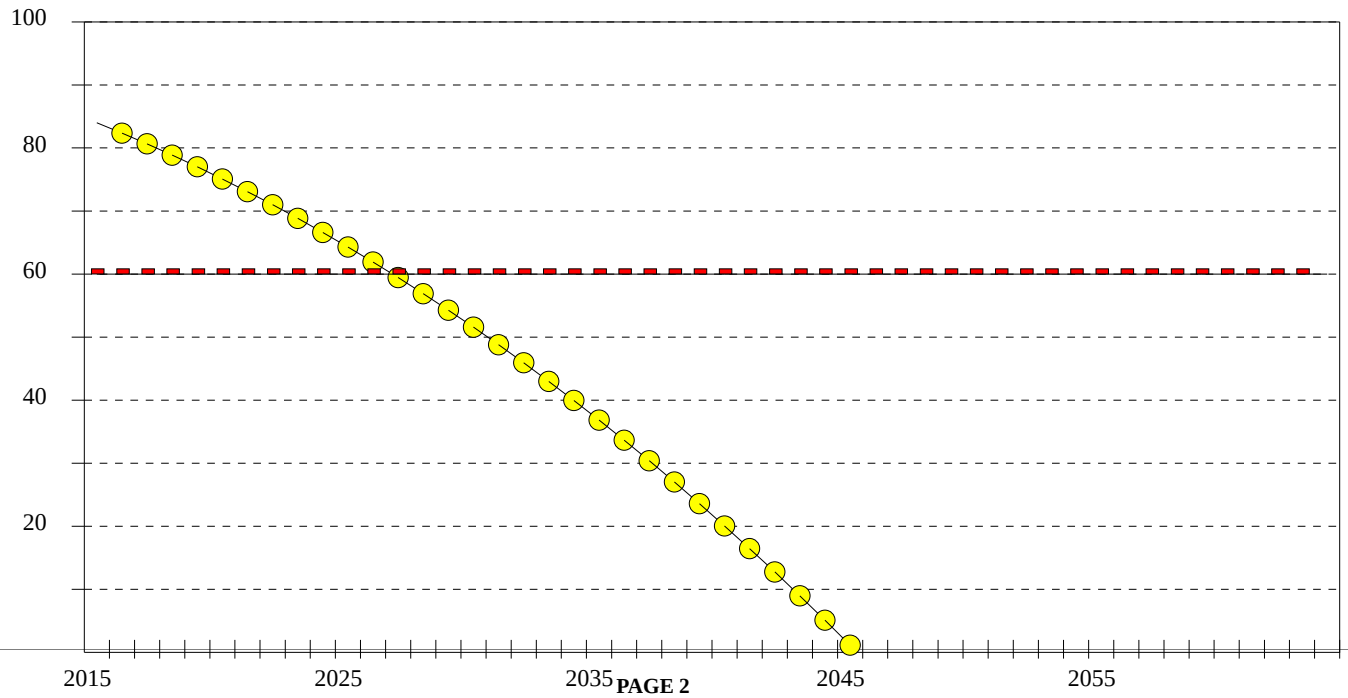
FEATURE: 106 **DESCRIPTION:** TAXIWAY C1

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 84 SATISFACTORY
CONSTRUCTION YEAR: 1997 **ESTIMATED PCI IS:** 84 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 80

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 107 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 46,661 **FEATURE'S LOW PCI:** 88
INSPECTED AREA: 26,500 **AVERAGE PCI:** 90 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 90 in 2015

COMMENTS/HISTORY FOR FEATURE 107, TAXIWAY A

1988 14" PCC Overlay 1979 - 3" BIT. OVERLAY
1976 - 2' BIT. OVERLAY
1968 - 0.25" BIT. SURFACE TREATMENT
1964 - 1.5" BIT. OVERLAY 1962 - 2" BIT. SURFACE ON 8" COLD BIT. BASE

DISTRESS QUANTITIES FOR FEATURE 107

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	32	56	SLABS	77.4
JOINT SEAL DAMAGE	MED	17	29	SLABS	22.5

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	67 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

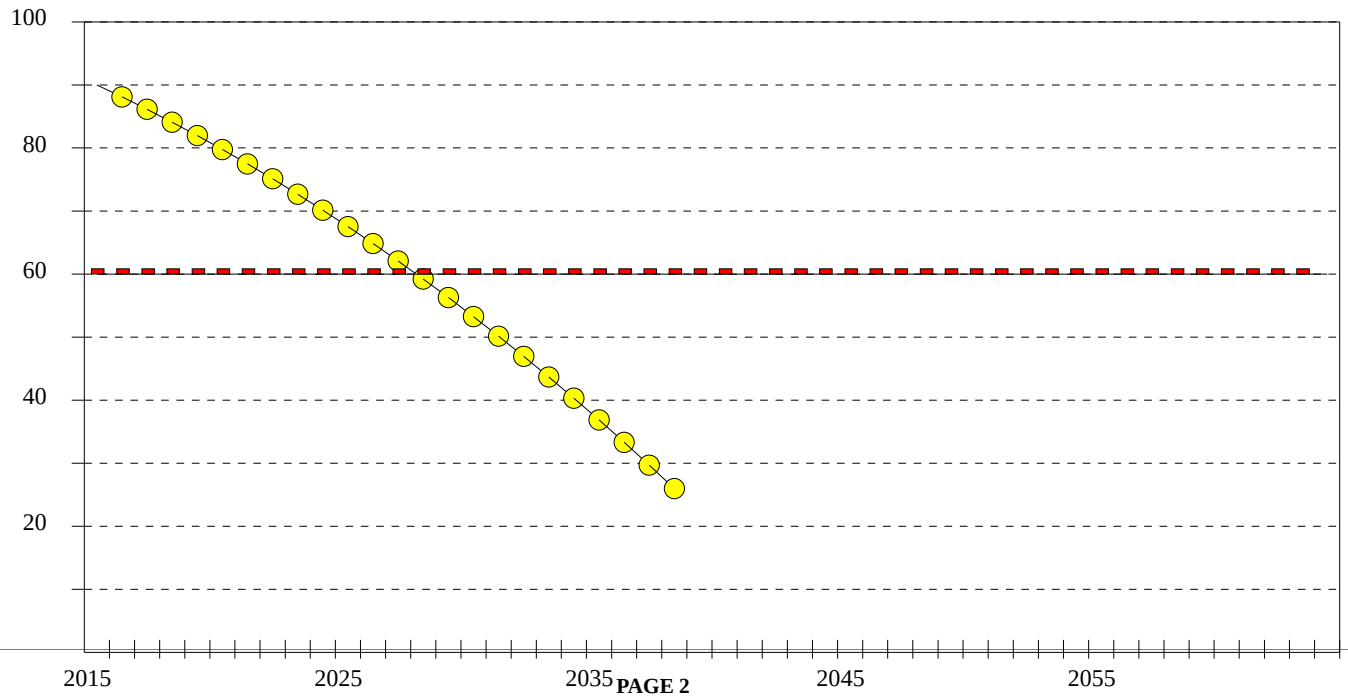
FEATURE: 107 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 90 GOOD
CONSTRUCTION YEAR: 1988 **ESTIMATED PCI IS:** 90 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 62

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 108 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 138,393 **FEATURE'S LOW PCI:** 74
INSPECTED AREA: 45,700 **AVERAGE PCI:** 83 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2025

COMMENTS/HISTORY FOR FEATURE 108, TAXIWAY A

1988 14" PCC Overlay
1979 - 5" BIT. OVERLAY
1953 - 3" BIT. SURFACE ON 7" AGG. BASE
*

DISTRESS QUANTITIES FOR FEATURE 108

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	LOW	2	6	SLABS	14.4
JOINT SEAL DAMAGE	HIGH	76	230	SLABS	76.7
SHRINKAGE CRACKS	N/A	3	9	SLABS	3.8
SPALLING-JOINTS	MED	1	3	SLABS	4.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	8 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	27 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	64 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 108 **DESCRIPTION:** TAXIWAY A

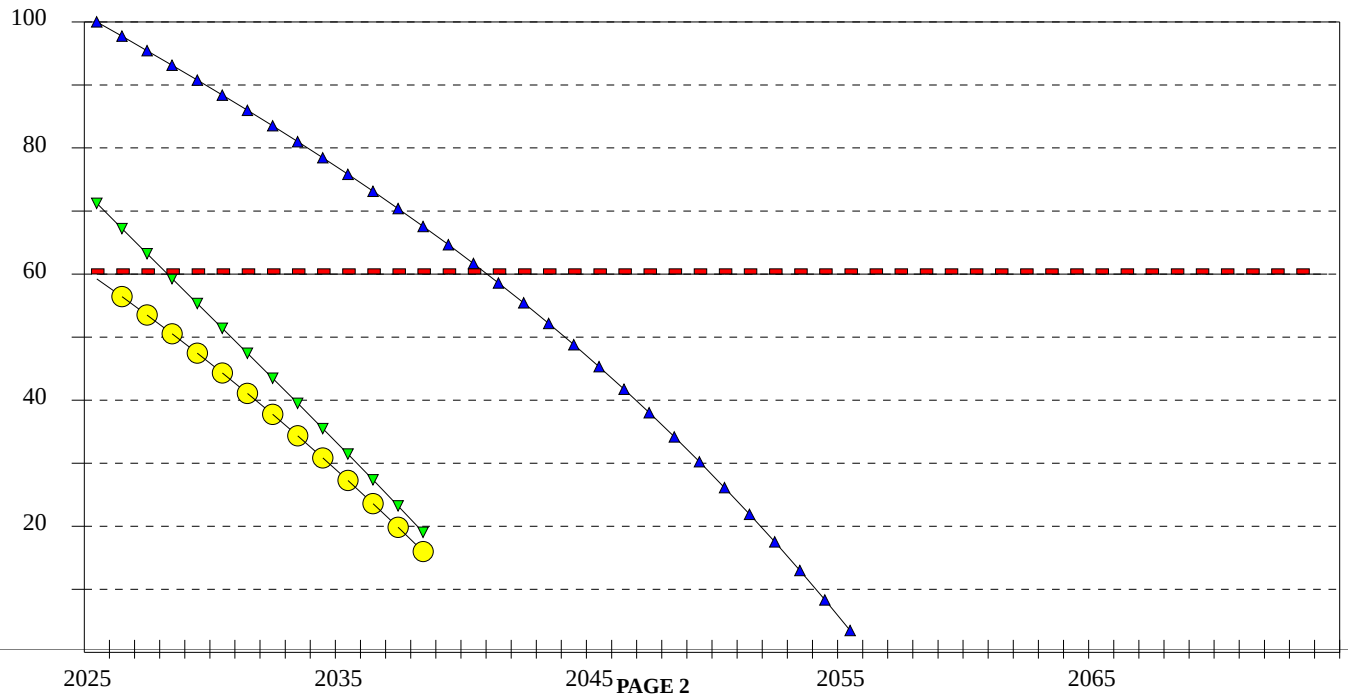
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1988
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 83 SATISFACTORY
ESTIMATED PCI IS: 59 in 2025
NORMAL PCI FOR THIS AGE: 35

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$762,545	16 YEARS
▼	PATCHING/JOINT REPAIR	$25,486	3 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 122 **DESCRIPTION:** TAXIWAY A2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 28,374 **FEATURE'S LOW PCI:** 88
INSPECTED AREA: 18,750 **AVERAGE PCI:** 88 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 88 in 2015

COMMENTS/HISTORY FOR FEATURE 122, TAXIWAY A2

1988 16" PCC/ 6" stabilized base
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DISTRESS QUANTITIES FOR FEATURE 122

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	30	45	SLABS	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	67 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

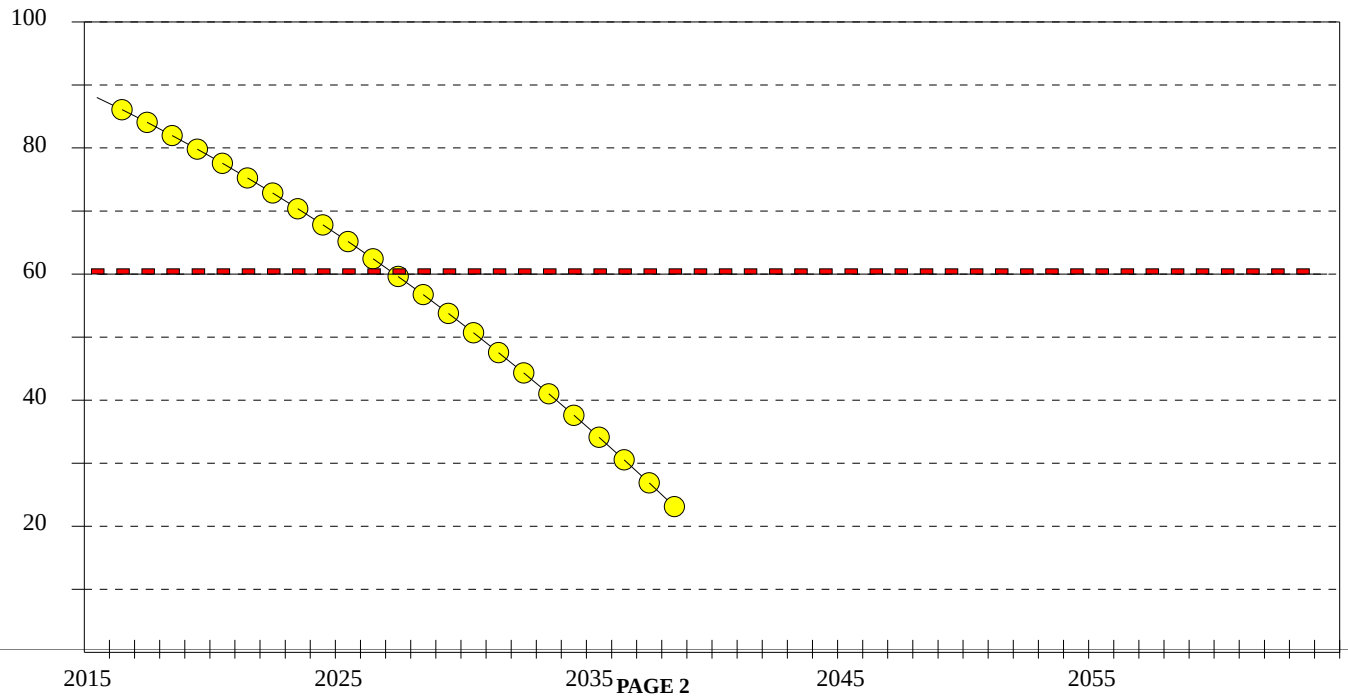
FEATURE: 122 **DESCRIPTION:** TAXIWAY A2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 88 GOOD
CONSTRUCTION YEAR: 1988 **ESTIMATED PCI IS:** 88 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 62

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 125 **DESCRIPTION:** TAXIWAY A3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15

PAVEMENT TYPE: AC +
FEATURE AREA: 38,828
INSPECTED AREA: 15,000
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 92
FEATURE'S LOW PCI: 88
AVERAGE PCI: 90 GOOD
ESTIMATED PCI IS: 90 in 2015

COMMENTS/HISTORY FOR FEATURE 125, TAXIWAY A3

2009 AC MILL AND OVERLAY
est 1990 AC
*
*

DISTRESS QUANTITIES FOR FEATURE 125

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	497	1,286	L.F.	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

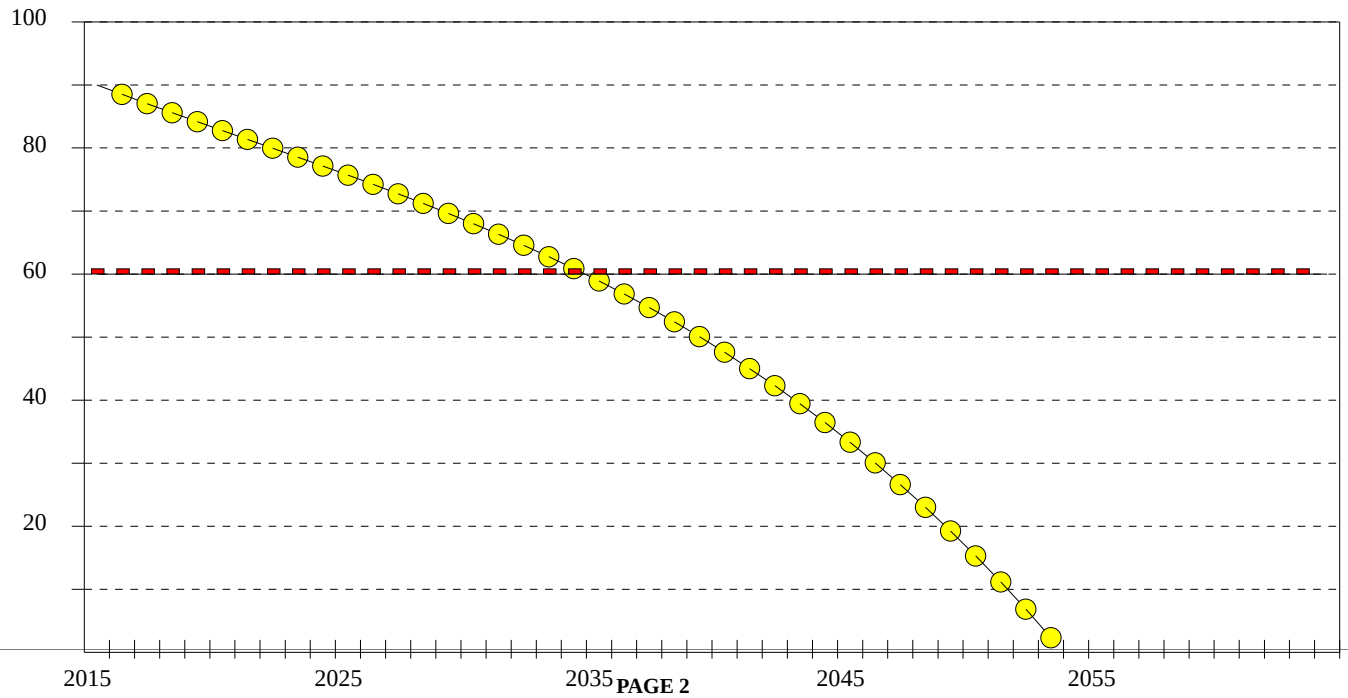
FEATURE: 125 **DESCRIPTION:** TAXIWAY A3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 90 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 90 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 91

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 127 **DESCRIPTION:** TAXIWAY A3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC
FEATURE AREA: 19,950
INSPECTED AREA: 15,000
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 88
FEATURE'S LOW PCI: 88
AVERAGE PCI: 88 GOOD
ESTIMATED PCI IS: 88 in 2015

COMMENTS/HISTORY FOR FEATURE 127, TAXIWAY A3

1988 16" PCC/ 6" stabilized base
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DISTRESS QUANTITIES FOR FEATURE 127

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	24	31	SLABS	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	67 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

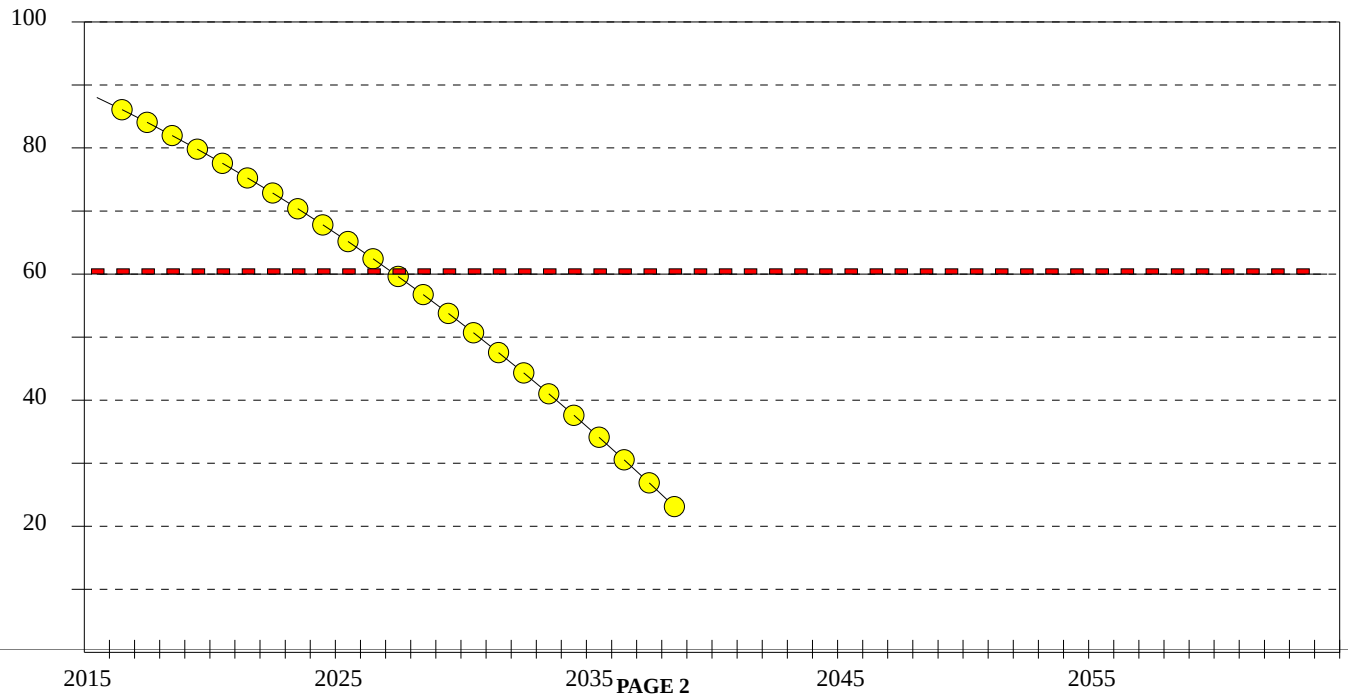
FEATURE: 127 **DESCRIPTION:** TAXIWAY A3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 88 GOOD
CONSTRUCTION YEAR: 1988 **ESTIMATED PCI IS:** 88 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 62

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 130 **DESCRIPTION:** TAXIWAY A2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15

PAVEMENT TYPE: AC +
FEATURE AREA: 39,174
INSPECTED AREA: 18,750
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 95
FEATURE'S LOW PCI: 92
AVERAGE PCI: 94 GOOD
ESTIMATED PCI IS: 94 in 2015

COMMENTS/HISTORY FOR FEATURE 130, TAXIWAY A2

2009 AC MILL AND OVERLAY
*
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DISTRESS QUANTITIES FOR FEATURE 130

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	356	743	L.F.	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

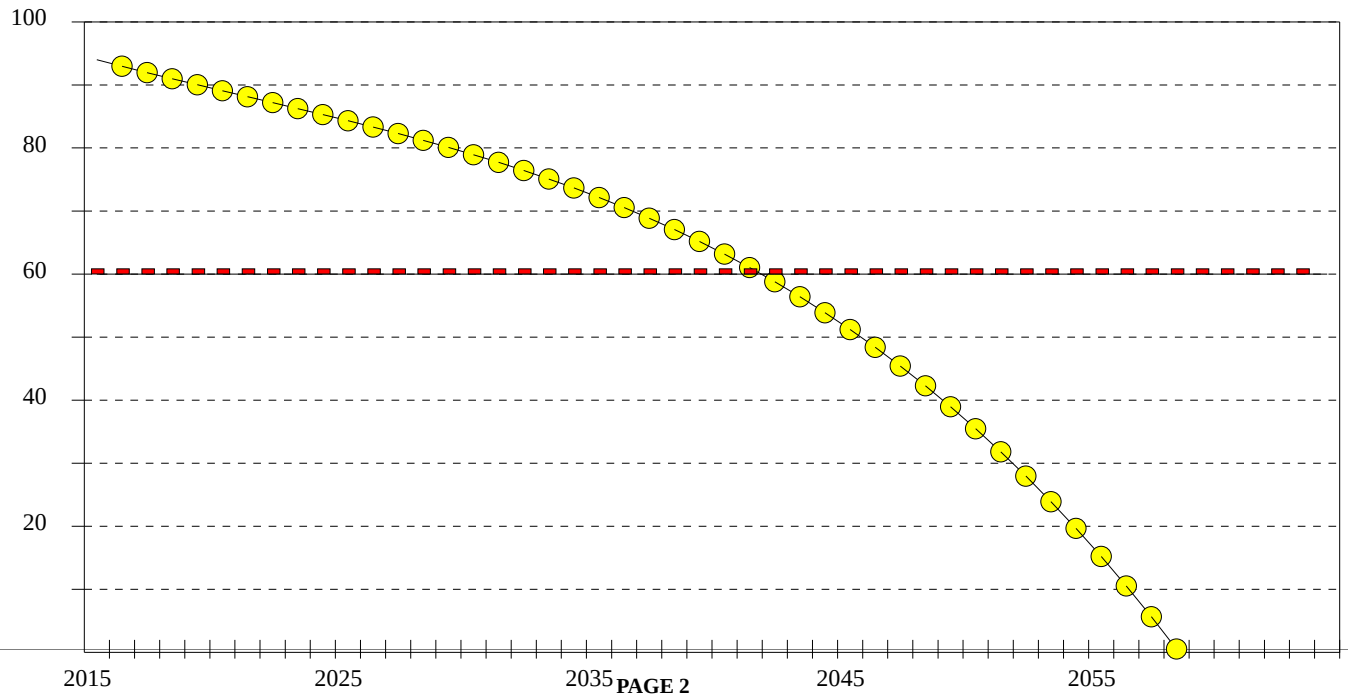
FEATURE: 130 **DESCRIPTION:** TAXIWAY A2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 94 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 94 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 91

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 201 **DESCRIPTION:** TAXIWAY D

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 52
FEATURE AREA: 59,909 **FEATURE'S LOW PCI:** 25
INSPECTED AREA: 20,000 **AVERAGE PCI:** 42 POOR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 42 in 2015

COMMENTS/HISTORY FOR FEATURE 201, TAXIWAY D

1997 AC 1992 - BIT. OVERLAY & WIDENING est
1971 - 2" BIT. OVERLAY ON 4" BIT. BASE
1964 - 1.5" BIT. OVERLAY
1943 - 2" BIT. SURFACE ON 8" COLD BIT. BASE

DISTRESS QUANTITIES FOR FEATURE 201

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	345	1,033	S.F.	17
ALLIGATOR CRACKING	LOW	258	772	S.F.	21.8
BLOCK CRACKING	LOW	3,755	11,247	S.F.	10.2
LONG.& TRANS. CRACK	MED	351	1,051	L.F.	13
LONG.& TRANS. CRACK	LOW	2,833	8,486	L.F.	26.5
RUTTING	LOW	15	44	S.F.	2.4
WEATHERING	MED	1,550	4,642	S.F.	3.7
WEATHERING	LOW	15,550	46,579	S.F.	4.8

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 41 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 30 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 29 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

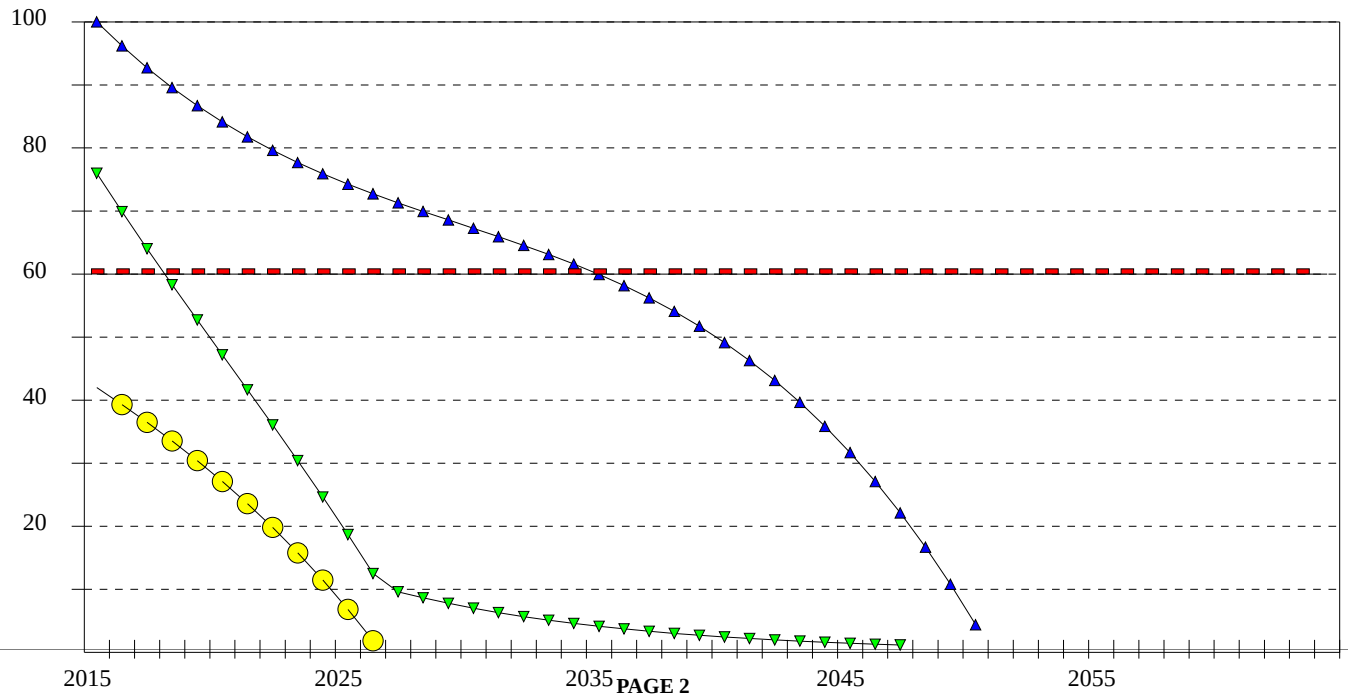
FEATURE: 201 **DESCRIPTION:** TAXIWAY D

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 42 POOR
CONSTRUCTION YEAR: 1997 **ESTIMATED PCI IS:** 42 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 63

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$86,268	20 YEARS
▼	SURFACE TREATMENT	$24,667	3 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 202 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 38
FEATURE AREA: 32,100 **FEATURE'S LOW PCI:** 27
INSPECTED AREA: 10,200 **AVERAGE PCI:** 32 VERY POOR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 32 in 2015

COMMENTS/HISTORY FOR FEATURE 202, TAXIWAY B

1971 - 2" BIT. OVERLAY ON 4" BIT. BASE
1964 - 1.5" BIT. OVERLAY
1943 - 2" BIT. SURFACE ON 8" COLD BIT. BASE
*

DISTRESS QUANTITIES FOR FEATURE 202

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	245	771	S.F.	24.6
ALLIGATOR CRACKING	LOW	285	896	S.F.	18.3
DEPRESSION	LOW	40	125	S.F.	1.1
LONG.& TRANS. CRACK	MED	300	944	L.F.	12.4
LONG.& TRANS. CRACK	LOW	827	2,602	L.F.	13.2
RAVELING	MED	325	1,022	S.F.	8.2
RAVELING	LOW	6,700	21,085	S.F.	15.1
RUTTING	LOW	50	157	S.F.	5.5
WEATHERING	LOW	3,000	9,441	S.F.	1.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 47 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 28 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 25 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

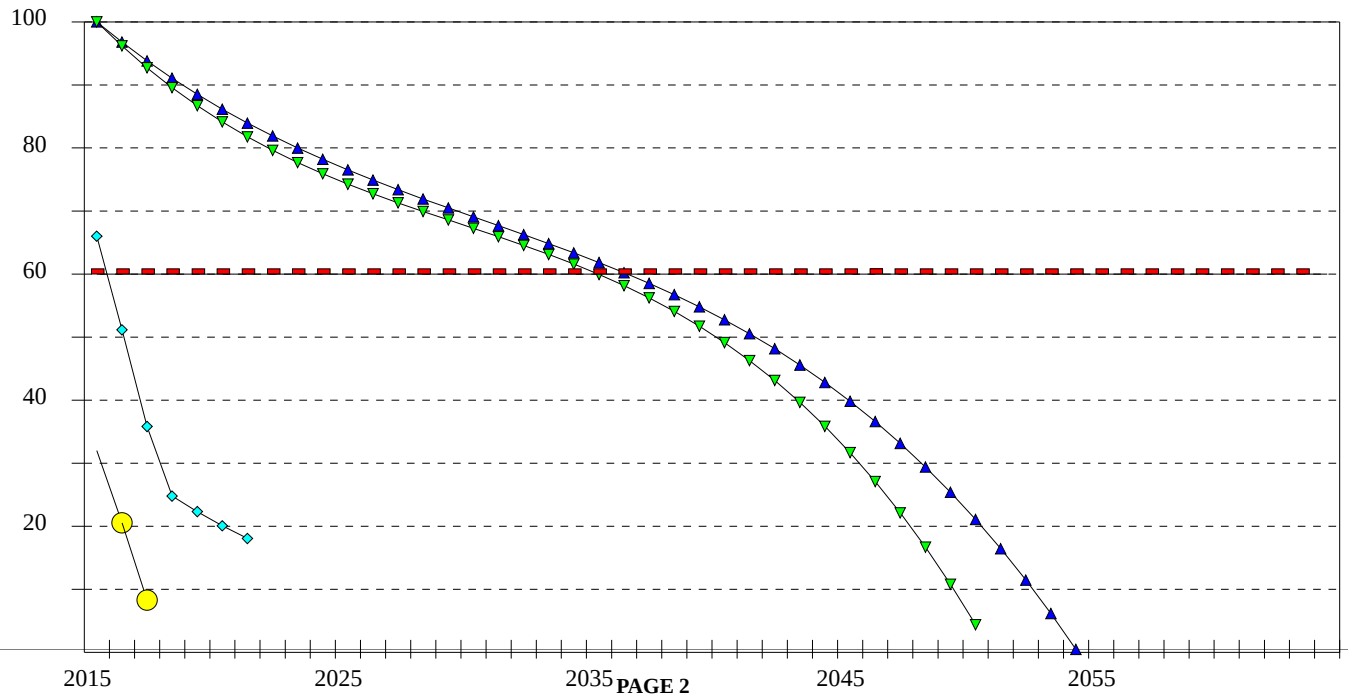
FEATURE: 202 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 32 VERY POOR
CONSTRUCTION YEAR: 1971 **ESTIMATED PCI IS:** 32 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 0

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$172,056	22 YEARS
▼	STRUCTURAL OVERLAY	$72,546	20 YEARS
◆	SURFACE TREATMENT	$13,689	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 205 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC on PCC
FEATURE AREA: 54,848
INSPECTED AREA: 22,500
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 95
FEATURE'S LOW PCI: 84
AVERAGE PCI: 88 GOOD
ESTIMATED PCI IS: 59 in 2026

COMMENTS/HISTORY FOR FEATURE 205, TAXIWAY B

2009 AC OVERLAY
1971 - 2" BIT. OVERLAY ON 4" BIT. BASE
1964 - 1.5" BIT. OVERLAY
1943 - 2" BIT. SURFACE ON 8" COLD BIT. BASE

DISTRESS QUANTITIES FOR FEATURE 205

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	155	377	L.F.	57.5
LONG.& TRANS. CRACK	LOW	360	877	L.F.	42.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 205 **DESCRIPTION:** TAXIWAY B

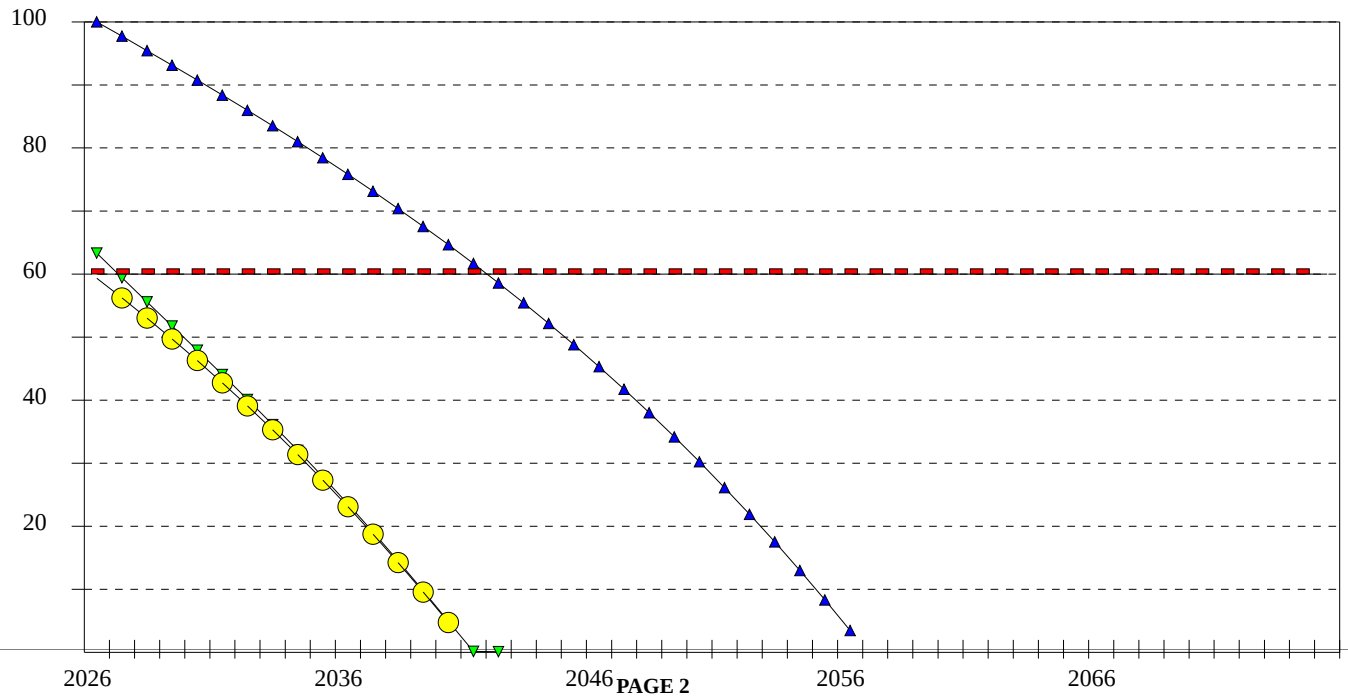
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026
PAVEMENT TYPE: AC on PCC
CONSTRUCTION YEAR: 2009
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 88 GOOD
ESTIMATED PCI IS: 59 in 2026
NORMAL PCI FOR THIS AGE: 55

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$78,981	16 YEARS
▼	CRACK REPAIR	$1,554	1 YEAR
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 215 **DESCRIPTION:** TAXIWAY B2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 47,293 **FEATURE'S LOW PCI:** 84
INSPECTED AREA: 21,600 **AVERAGE PCI:** 86 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 86 in 2015

COMMENTS/HISTORY FOR FEATURE 215, TAXIWAY B2

1997 PCC est
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*

DISTRESS QUANTITIES FOR FEATURE 215

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	40	87	SLABS	85
PATCH<5 SF	LOW	2	4	SLABS	3.8
SPALLING-JOINTS	MED	1	2	SLABS	11.1

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	7 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	31 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	62 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

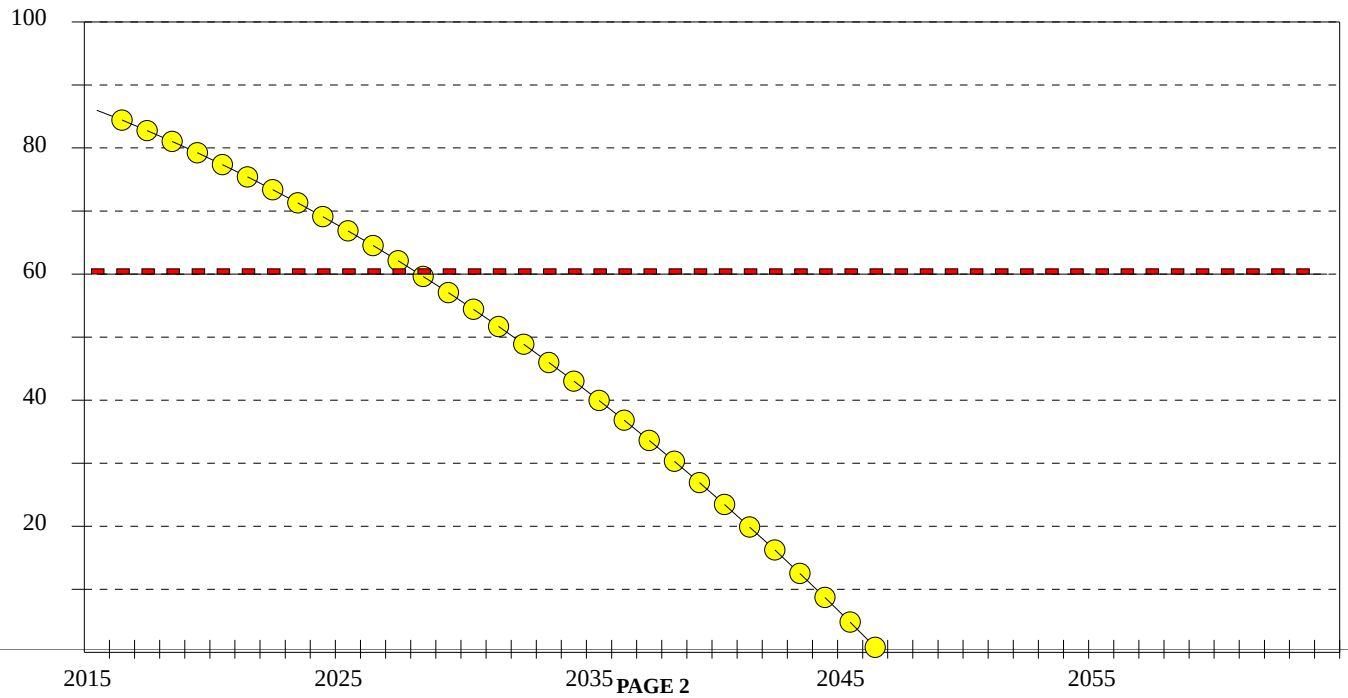
FEATURE: 215 **DESCRIPTION:** TAXIWAY B2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 86 GOOD
CONSTRUCTION YEAR: 1997 **ESTIMATED PCI IS:** 86 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 80

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 220 **DESCRIPTION:** TAXIWAY B2

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC on PCC
FEATURE AREA: 30,590
INSPECTED AREA: 15,000
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 90
FEATURE'S LOW PCI: 81
AVERAGE PCI: 85 SATISFACTORY
ESTIMATED PCI IS: 59 in 2024

COMMENTS/HISTORY FOR FEATURE 220, TAXIWAY B2

1998 AC est
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DISTRESS QUANTITIES FOR FEATURE 220

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	599	1,221	L.F.	77
WEATHERING	LOW	6,000	12,236	S.F.	22.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	59 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	41 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 220 **DESCRIPTION:** TAXIWAY B2

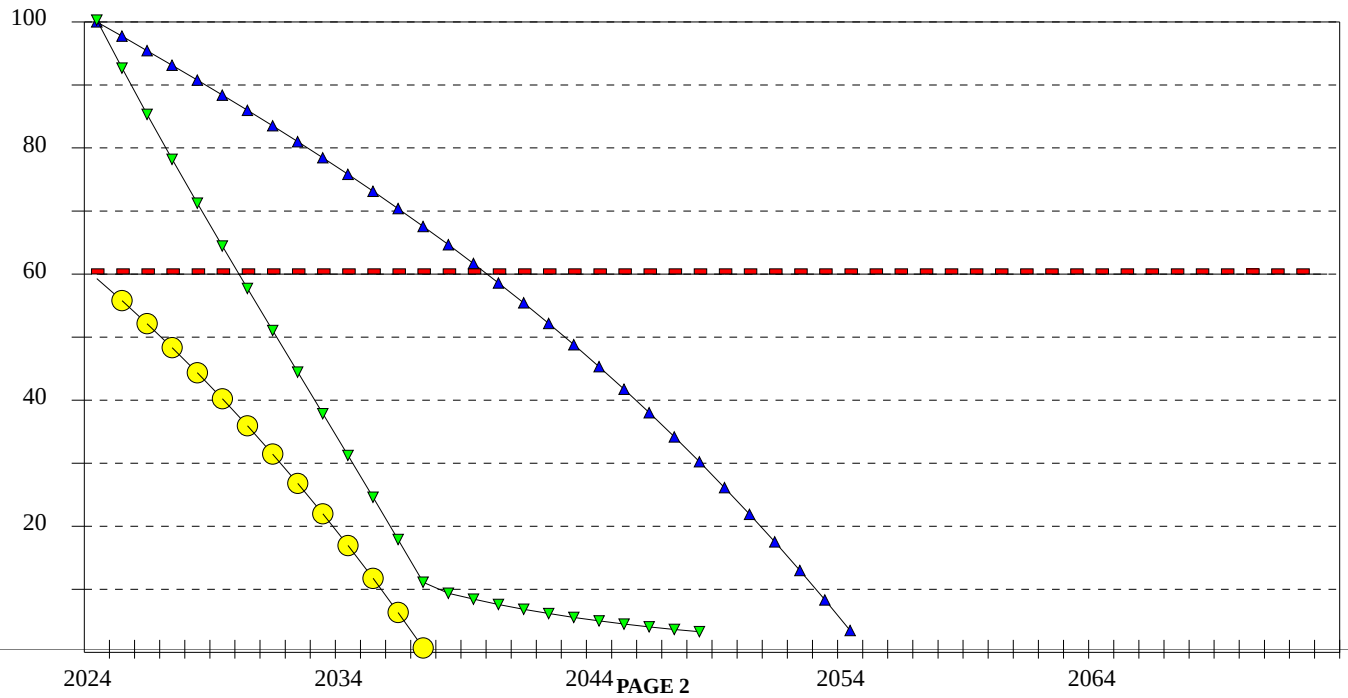
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024
PAVEMENT TYPE: AC on PCC
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 85 SATISFACTORY
ESTIMATED PCI IS: 59 in 2024
NORMAL PCI FOR THIS AGE: 21

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$44,049	16 YEARS
▼	SURFACE TREATMENT	$11,930	6 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 225 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 531,739 **FEATURE'S LOW PCI:** 78
INSPECTED AREA: 87,900 **AVERAGE PCI:** 89 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 89 in 2015

COMMENTS/HISTORY FOR FEATURE 225, TAXIWAY B

1997 PCC est
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DISTRESS QUANTITIES FOR FEATURE 225

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	LOW	1	6	SLABS	3.1
JOINT SEAL DAMAGE	HIGH	86	520	SLABS	60.9
JOINT SEAL DAMAGE	MED	66	399	SLABS	25.4
PATCH<5 SF	LOW	1	6	SLABS	.7
SHRINKAGE CRACKS	N/A	4	24	SLABS	3.2
SPALLING-CORNERS	HIGH	1	6	SLABS	4.5
SPALLING-CORNERS	LOW	1	6	SLABS	1.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 3 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 64 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

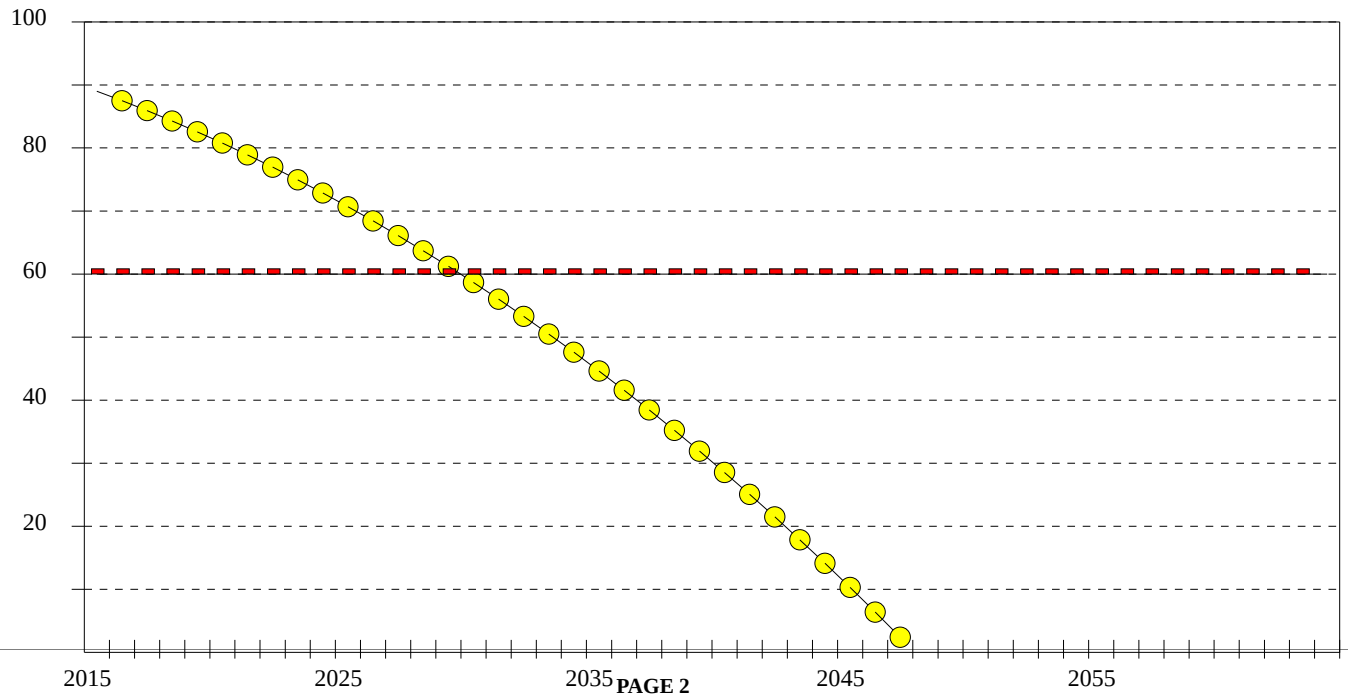
FEATURE: 225 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 89 GOOD
CONSTRUCTION YEAR: 1997 **ESTIMATED PCI IS:** 89 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 80

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 301 **DESCRIPTION:** TAXIWAY C

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC
FEATURE AREA: 79,914
INSPECTED AREA: 30,000
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 42
FEATURE'S LOW PCI: 28
AVERAGE PCI: 35 VERY POOR
ESTIMATED PCI IS: 35 in 2015

COMMENTS/HISTORY FOR FEATURE 301, TAXIWAY C

1971 - 2" Bit on 8" bit base
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DISTRESS QUANTITIES FOR FEATURE 301

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	66	175	S.F.	4.8
ALLIGATOR CRACKING	LOW	1,017	2,709	S.F.	21.2
DEPRESSION	LOW	826	2,200	S.F.	8.5
LONG.& TRANS. CRACK	HIGH	9	24	L.F.	1
LONG.& TRANS. CRACK	MED	897	2,389	L.F.	12.3
LONG.& TRANS. CRACK	LOW	1,478	3,937	L.F.	9.5
PATCH & UTILITY CUT	LOW	1,489	3,966	S.F.	7
RAVELING	MED	2,550	6,792	S.F.	13.1
RAVELING	LOW	5,800	15,450	S.F.	9.4
WEATHERING	HIGH	500	1,331	S.F.	2.5
WEATHERING	MED	14,500	38,625	S.F.	10.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 31 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 38 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 31 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 301 **DESCRIPTION:** TAXIWAY C

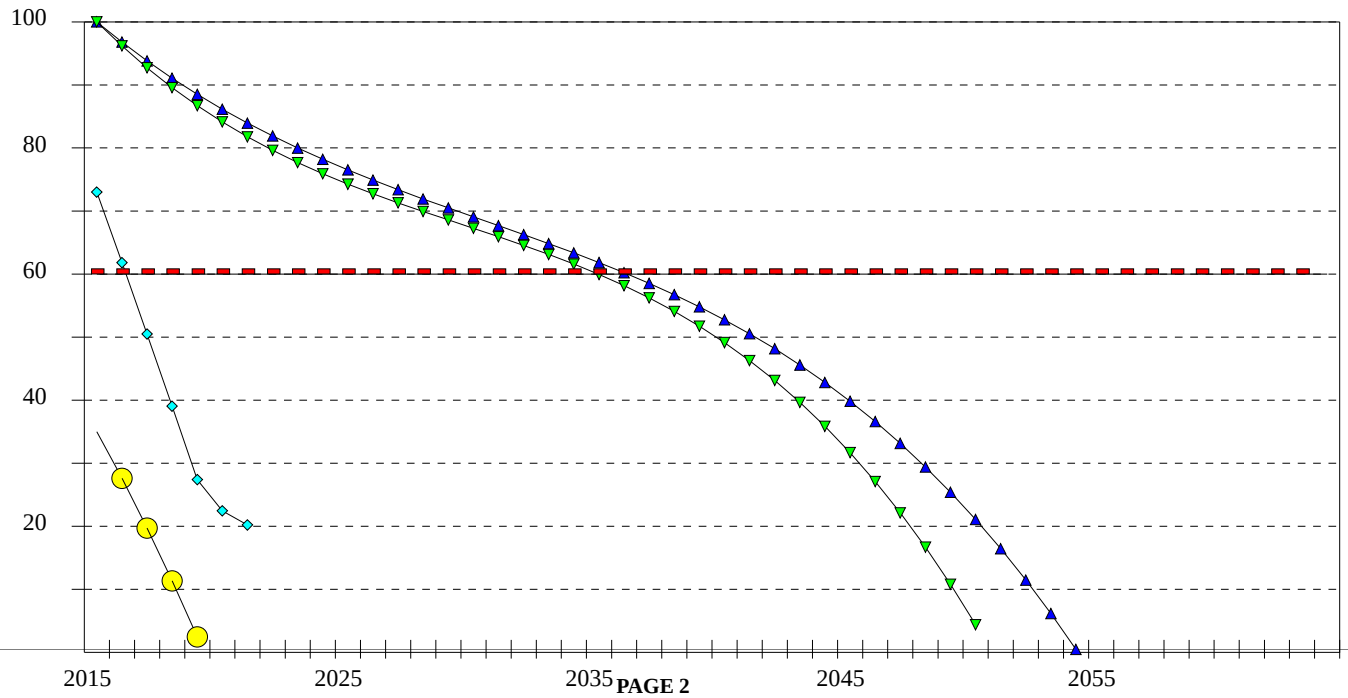
ANALYSIS YEAR: 2015
PAVEMENT TYPE: AC
CONSTRUCTION YEAR: 1971
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 35 VERY POOR
ESTIMATED PCI IS: 35 in 2015
NORMAL PCI FOR THIS AGE: 0

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$428,339	22 YEARS
▼	STRUCTURAL OVERLAY	$180,605	20 YEARS
◆	SURFACE TREATMENT	$34,158	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 302 **DESCRIPTION:** TAXIWAY C

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022 **INSPECTION DATE:** 9-16-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 75
FEATURE AREA: 32,221 **FEATURE'S LOW PCI:** 66
INSPECTED AREA: 15,000 **AVERAGE PCI:** 72 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 57 in 2022

COMMENTS/HISTORY FOR FEATURE 302, TAXIWAY C

1995 AC est
1971 - 3" BIT. OVERLAY
1964 - 2" BIT. OVERLAY
1943 - 2" BIT. SURFACE ON 8" COLD BIT. BASE

DISTRESS QUANTITIES FOR FEATURE 302

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	24	51	L.F.	12.5
LONG.& TRANS. CRACK	LOW	1,488	3,196	L.F.	78.9
WEATHERING	LOW	3,500	7,518	S.F.	8.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	64 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	36 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

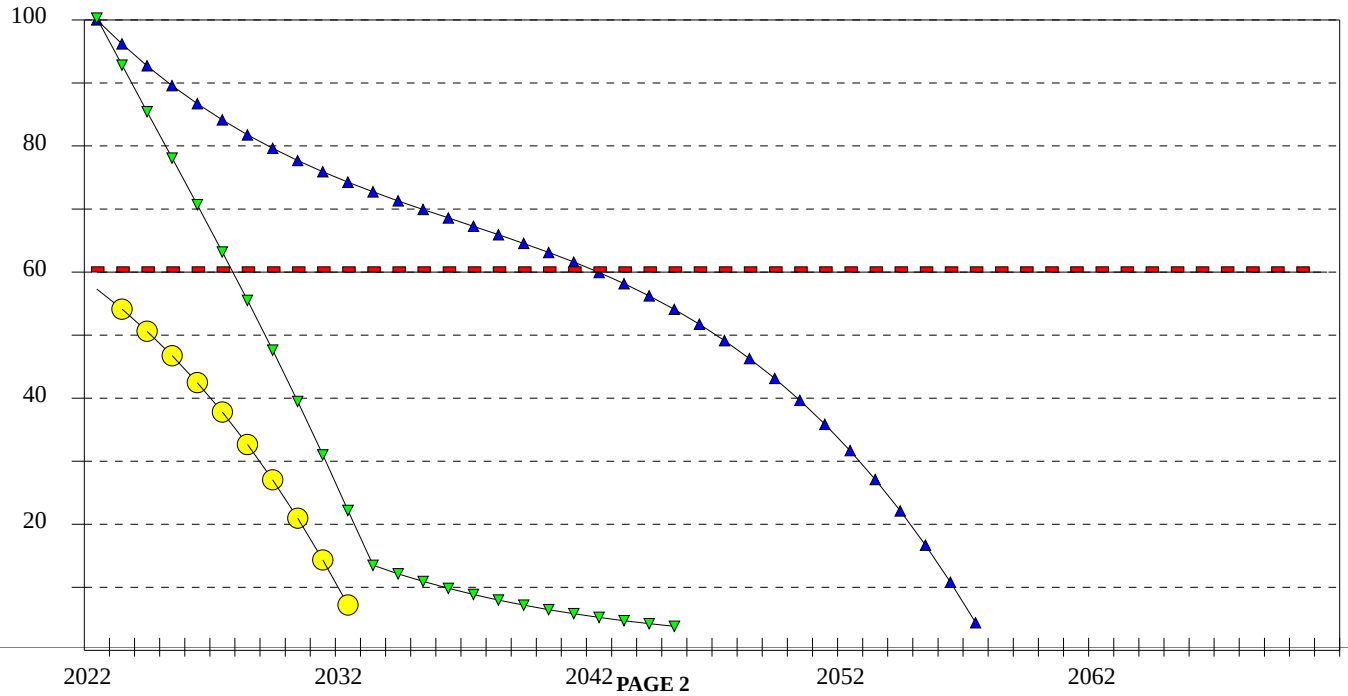
FEATURE: 302 **DESCRIPTION:** TAXIWAY C

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022
INSPECTION DATE: 9-16-15
PAVEMENT TYPE: AC OVERLAY
AVERAGE PCI AT INSPECTION: 72 SATISFACTORY
CONSTRUCTION YEAR: 1995
ESTIMATED PCI IS: 57 in 2022
MINIMUM SERVICE LEVEL: 60
NORMAL PCI FOR THIS AGE: 43

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$46,398	20 YEARS
▼	SURFACE TREATMENT	$12,629	6 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3001 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 75
FEATURE AREA: 225,900 **FEATURE'S LOW PCI:** 23
INSPECTED AREA: 48,000 **AVERAGE PCI:** 50 POOR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 50 in 2015

COMMENTS/HISTORY FOR FEATURE 3001, TERMINAL RAMP

1984: 9" PCC / 6" AC
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DISTRESS QUANTITIES FOR FEATURE 3001

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
CORNER BREAK	HIGH	1	4	SLABS	1.2
CORNER BREAK	MED	2	9	SLABS	1.6
CORNER BREAK	LOW	6	28	SLABS	2.8
LONG/TRAN/DIAG CRK.	HIGH	1	4	SLABS	1.7
LONG/TRAN/DIAG CRK.	MED	5	23	SLABS	6
LONG/TRAN/DIAG CRK.	LOW	16	75	SLABS	6.9
'D' CRACKING	LOW	1	4	SLABS	.2
JOINT SEAL DAMAGE	HIGH	128	602	SLABS	9
JOINT SEAL DAMAGE	MED	110	517	SLABS	4.3
PATCH<5 SF	MED	4	18	SLABS	1.2
PATCH<5 SF	LOW	18	84	SLABS	1.4
PATCH>5 SF/UTIL.CUT	LOW	2	9	SLABS	.6
SCALING/CRAZING	MED	1	4	SLABS	.5
SETTLEMENT/FAULT	LOW	10	47	SLABS	4.6
DIVIDED SLAB	HIGH	3	14	SLABS	11
DIVIDED SLAB	MED	3	14	SLABS	5.8
DIVIDED SLAB	LOW	1	4	SLABS	.9
SHRINKAGE CRACKS	N/A	4	18	SLABS	.3
SPALLING-JOINTS	HIGH	15	70	SLABS	18.7
SPALLING-JOINTS	MED	18	84	SLABS	7.5
SPALLING-JOINTS	LOW	3	14	SLABS	.5
SPALLING-CORNERS	HIGH	5	23	SLABS	2.9
SPALLING-CORNERS	MED	16	75	SLABS	6.1
SPALLING-CORNERS	LOW	8	37	SLABS	2
ALKALI SILICA	LOW	2	9	SLABS	.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 46 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 21 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

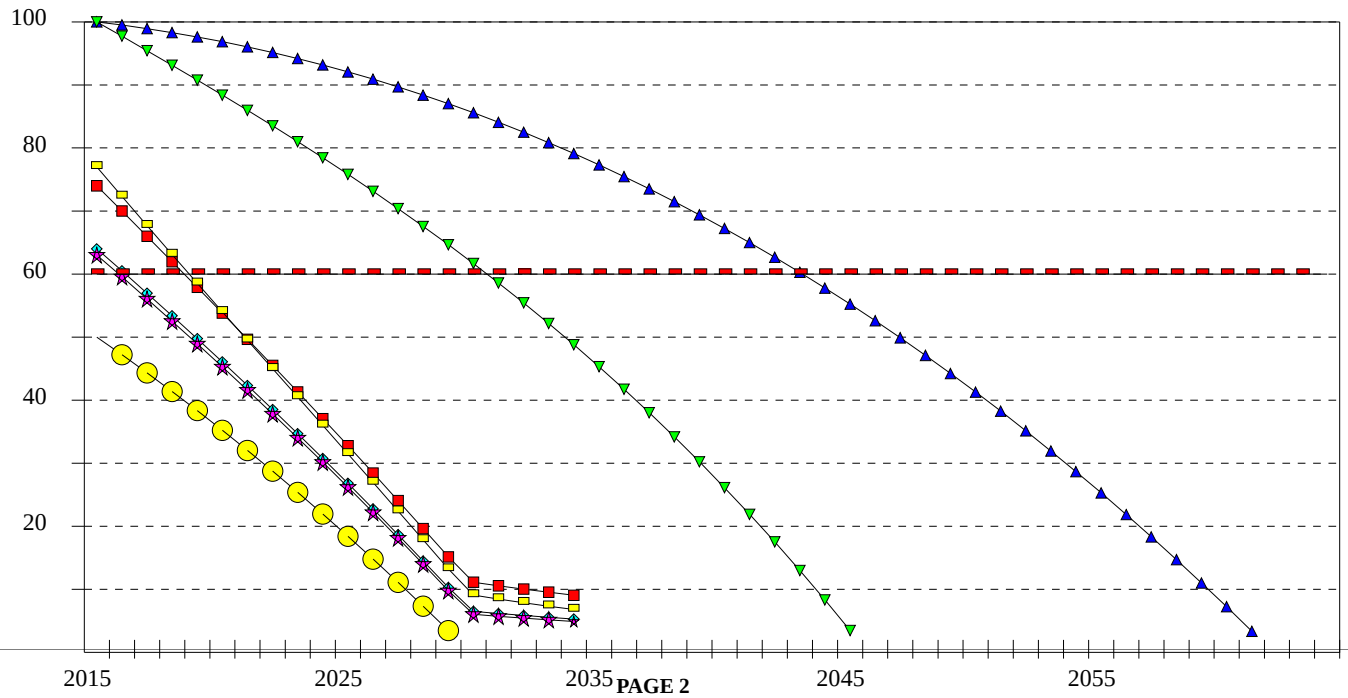
FEATURE: 3001 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 50 POOR
CONSTRUCTION YEAR: 1984 **ESTIMATED PCI IS:** 50 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 52

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$2,914,109	29 YEARS
▼	REPAIR AND/OR OVERLAY	$1,244,709	16 YEARS
◆	PATCHING	$23,578	2 YEARS
■	SLAB REPLACEMENT/PATCHING	$130,187	4 YEARS
★	SLAB REPLACEMENT/JOINT SEAL	$158,776	1 YEAR
▬	SLAB REPLACEMENT/PATCHING/JOINT SEAL	$182,354	4 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3002 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 81
FEATURE AREA: 150,100 **FEATURE'S LOW PCI:** 21
INSPECTED AREA: 42,000 **AVERAGE PCI:** 56 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 56 in 2015

COMMENTS/HISTORY FOR FEATURE 3002, TERMINAL RAMP

1978: 9" PCC / 6" AC
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DISTRESS QUANTITIES FOR FEATURE 3002

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
CORNER BREAK	MED	1	3	SLABS	1.1
CORNER BREAK	LOW	3	10	SLABS	2.2
LONG/TRAN/DIAG CRK.	MED	18	64	SLABS	22.8
LONG/TRAN/DIAG CRK.	LOW	15	53	SLABS	9.6
JOINT SEAL DAMAGE	HIGH	120	428	SLABS	12.2
JOINT SEAL DAMAGE	MED	80	285	SLABS	4.7
PATCH<5 SF	LOW	5	17	SLABS	.5
PATCH>5 SF/UTIL.CUT	MED	1	3	SLABS	1.8
PATCH>5 SF/UTIL.CUT	LOW	3	10	SLABS	1.4
SETTLEMENT/FAULT	LOW	5	17	SLABS	3.5
DIVIDED SLAB	HIGH	4	14	SLABS	20.4
DIVIDED SLAB	MED	2	7	SLABS	4.6
SHRINKAGE CRACKS	N/A	5	17	SLABS	.7
SPALLING-JOINTS	HIGH	2	7	SLABS	4.4
SPALLING-JOINTS	MED	5	17	SLABS	3.1
SPALLING-JOINTS	LOW	1	3	SLABS	.2
SPALLING-CORNERS	HIGH	3	10	SLABS	2.5
SPALLING-CORNERS	MED	2	7	SLABS	1.2
SPALLING-CORNERS	LOW	6	21	SLABS	2.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	40 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	20 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	39 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

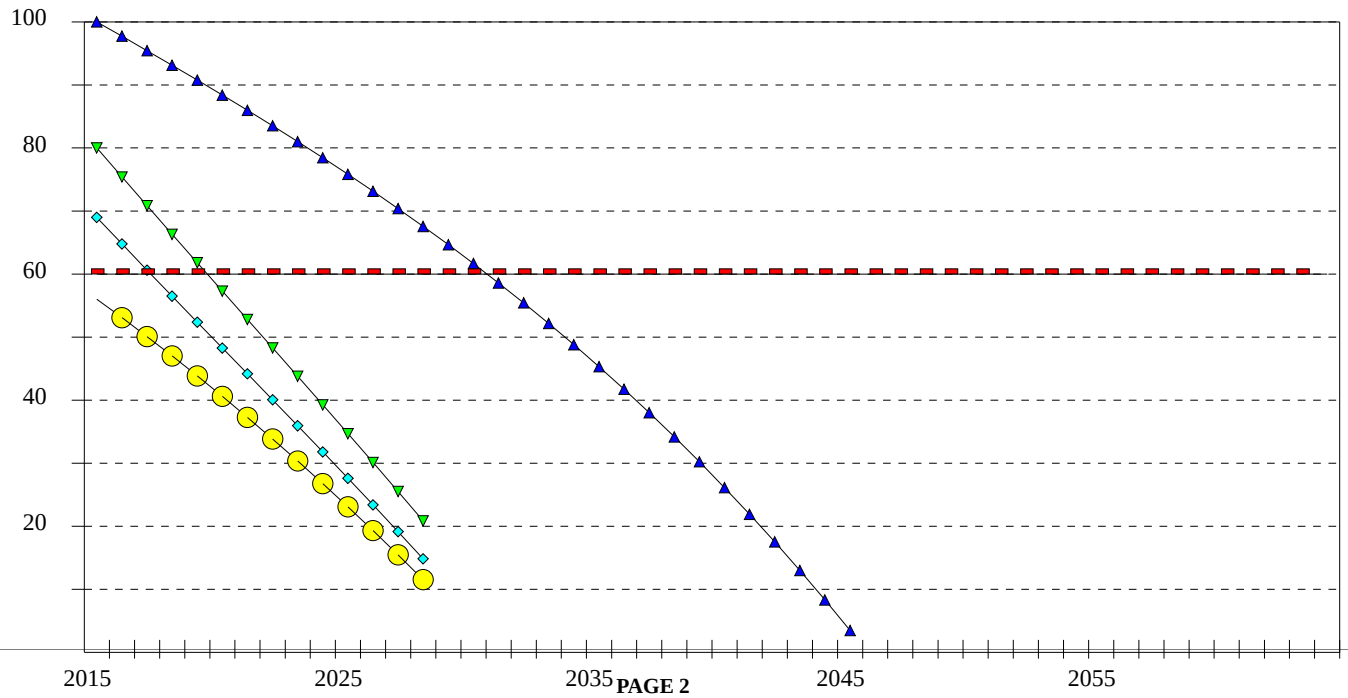
FEATURE: 3002 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 56 FAIR
CONSTRUCTION YEAR: 1978 **ESTIMATED PCI IS:** 56 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 35

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$827,051	16 YEARS
▼	SLAB REPLACEMENT/PATCHING/JOINT SEAL	$99,066	5 YEARS
◆	PATCHING/JOINT REPAIR	$42,868	3 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3003 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 113,154 **FEATURE'S LOW PCI:** 77
INSPECTED AREA: 52,500 **AVERAGE PCI:** 86 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 86 in 2015

COMMENTS/HISTORY FOR FEATURE 3003, TERMINAL RAMP

1988 - 14" PCC/6" Econocrete
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DISTRESS QUANTITIES FOR FEATURE 3003

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
CORNER BREAK	MED	1	2	SLABS	10.2
'D' CRACKING	MED	2	4	SLABS	10.3
JOINT SEAL DAMAGE	HIGH	36	77	SLABS	33.4
JOINT SEAL DAMAGE	MED	36	77	SLABS	19.4
JOINT SEAL DAMAGE	LOW	12	25	SLABS	1.8
PATCH<5 SF	LOW	3	6	SLABS	3
PATCH>5 SF/UTIL.CUT	LOW	1	2	SLABS	4.3
SETTLEMENT/FAULT	LOW	1	2	SLABS	6.4
SPALLING-CORNERS	HIGH	1	2	SLABS	7.5
SPALLING-CORNERS	LOW	1	2	SLABS	3.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 16 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 38 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 46 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

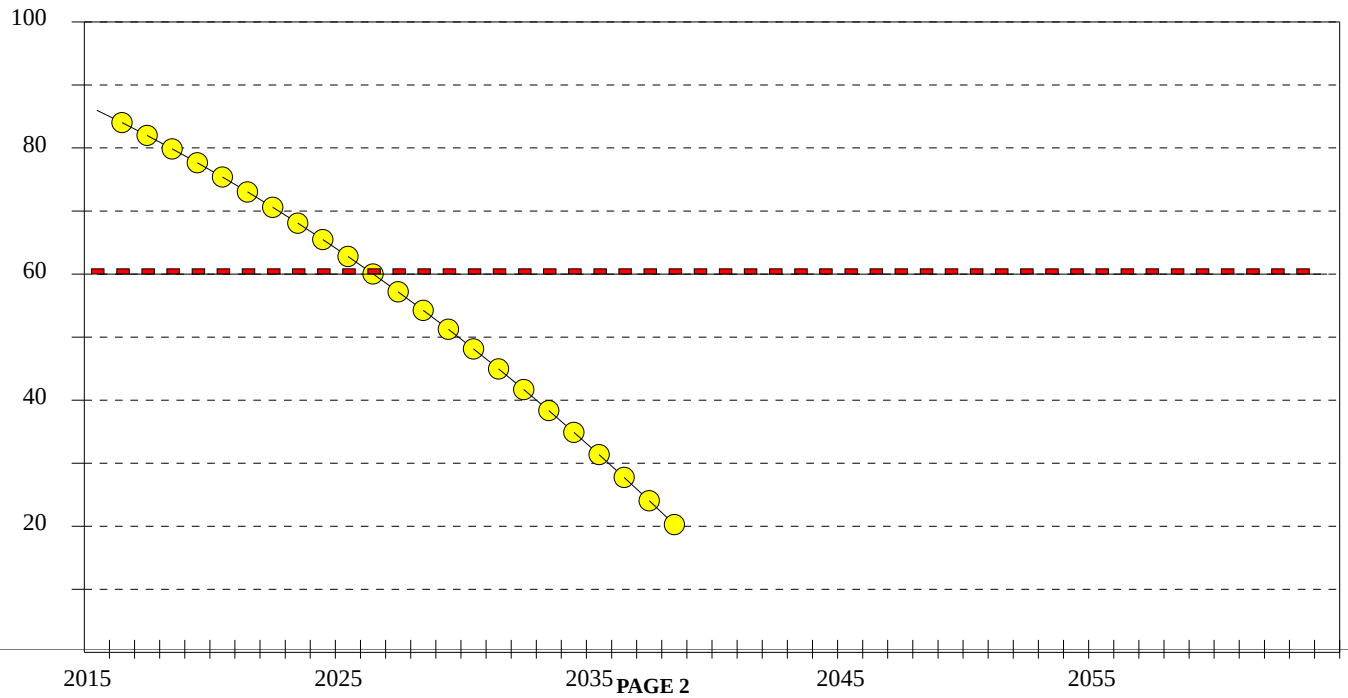
FEATURE: 3003 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 86 GOOD
CONSTRUCTION YEAR: 1988 **ESTIMATED PCI IS:** 86 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 62

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3005 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 463,773 **FEATURE'S LOW PCI:** 68
INSPECTED AREA: 105,000 **AVERAGE PCI:** 86 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2026

COMMENTS/HISTORY FOR FEATURE 3005, RAMP

1984 - 9" PCC/ 6" Asphalt
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DISTRESS QUANTITIES FOR FEATURE 3005

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
CORNER BREAK	LOW	1	4	SLABS	3.5
JOINT SEAL DAMAGE	HIGH	130	574	SLABS	47.6
JOINT SEAL DAMAGE	MED	76	335	SLABS	18.5
PATCH<5 SF	LOW	2	8	SLABS	.8
PUMPING	N/A	6	26	SLABS	17.2
SPALLING-JOINTS	HIGH	1	4	SLABS	8.6
SPALLING-JOINTS	LOW	1	4	SLABS	1
SPALLING-CORNERS	MED	1	4	SLABS	2.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 15 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 36 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 48 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3005 **DESCRIPTION:** RAMP

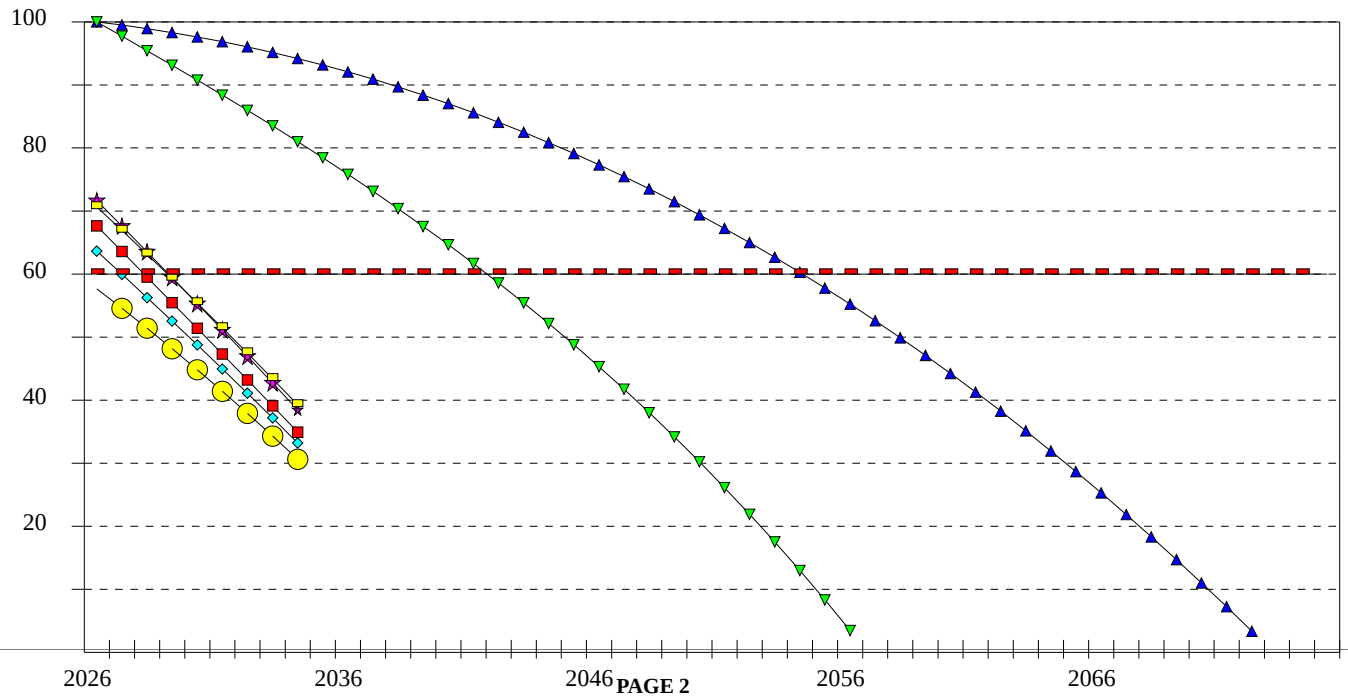
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1984
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 86 GOOD
ESTIMATED PCI IS: 58 in 2026
NORMAL PCI FOR THIS AGE: 18

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$5,982,671	29 YEARS
▼	REPAIR AND/OR OVERLAY	$2,555,389	16 YEARS
◆	JOINT/CRACK REPAIR	$72,603	1 YEAR
■	PATCHING/JOINT REPAIR	$73,488	2 YEARS
★	PATCHING/JOINT REPAIR/UNDERSEAL	$75,977	3 YEARS
▬	JOINT REPAIR/UNDERSEAL	$75,092	3 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3006 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2020 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 87
FEATURE AREA: 54,930 **FEATURE'S LOW PCI:** 64
INSPECTED AREA: 25,000 **AVERAGE PCI:** 78 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2020

COMMENTS/HISTORY FOR FEATURE 3006, RAMP

1962 - 9" PCC
1975/1982 PANEL REPLACEMENT
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DISTRESS QUANTITIES FOR FEATURE 3006

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	MED	3	6	SLABS	19.6
LONG/TRAN/DIAG CRK.	LOW	3	6	SLABS	9.9
JOINT SEAL DAMAGE	HIGH	20	43	SLABS	9.7
JOINT SEAL DAMAGE	MED	80	175	SLABS	22.7
PATCH<5 SF	LOW	2	4	SLABS	1
SHRINKAGE CRACKS	N/A	3	6	SLABS	2.1
SPALLING-JOINTS	MED	3	6	SLABS	8.9
SPALLING-JOINTS	LOW	1	2	SLABS	1.3
SPALLING-CORNERS	HIGH	4	8	SLABS	15.9
SPALLING-CORNERS	MED	3	6	SLABS	8.5

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 25 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 21 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 54 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3006 **DESCRIPTION:** RAMP

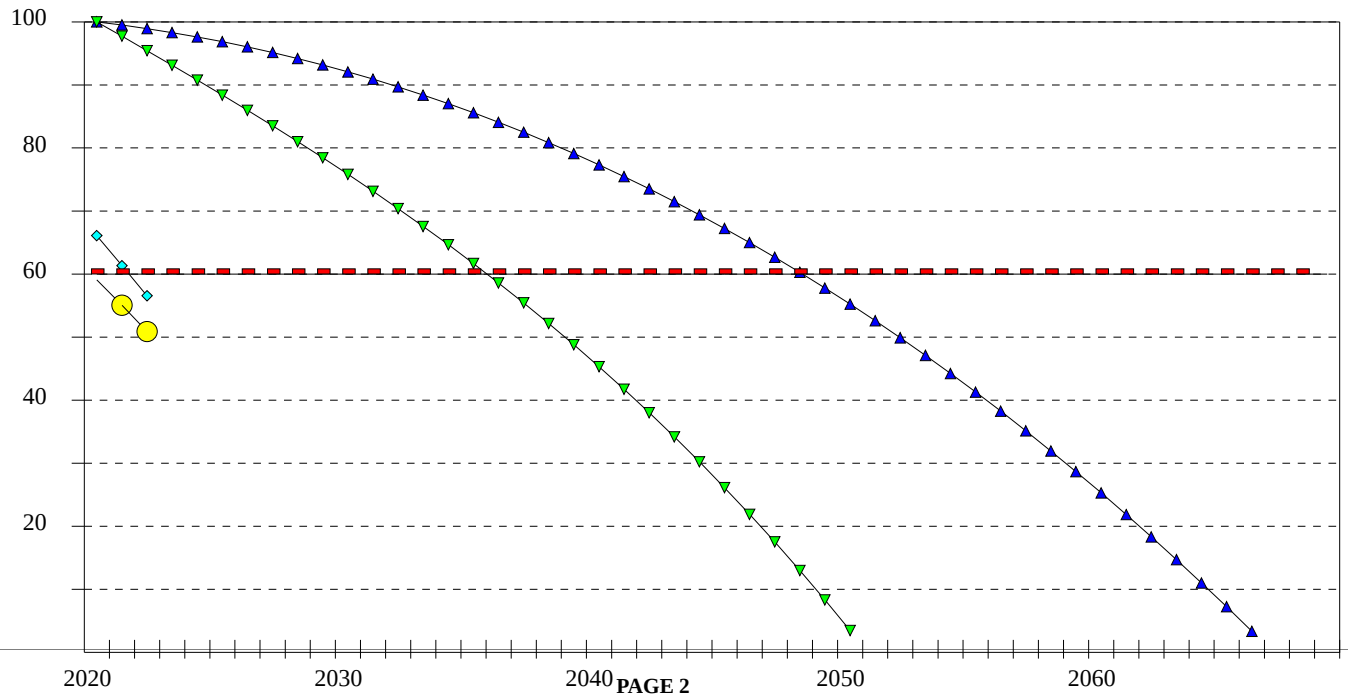
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2020
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1962
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 78 SATISFACTORY
ESTIMATED PCI IS: 59 in 2020
NORMAL PCI FOR THIS AGE: 0

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$708,596	29 YEARS
▼	REPAIR AND/OR OVERLAY	$302,664	16 YEARS
◆	JOINT/CRACK REPAIR	$8,182	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3015 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 110,640 **FEATURE'S LOW PCI:** 75
INSPECTED AREA: 46,000 **AVERAGE PCI:** 85 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2024

COMMENTS/HISTORY FOR FEATURE 3015, RAMP

1978 PCC est
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DISTRESS QUANTITIES FOR FEATURE 3015

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	20	48	SLABS	15.3
JOINT SEAL DAMAGE	MED	36	86	SLABS	17.9
JOINT SEAL DAMAGE	LOW	36	86	SLABS	5.1
PATCH<5 SF	LOW	1	2	SLABS	1
SCALING/CRAZING	LOW	1	2	SLABS	.9
SETTLEMENT/FAULT	LOW	9	21	SLABS	49.4
SPALLING-JOINTS	LOW	1	2	SLABS	2
SPALLING-CORNERS	HIGH	1	2	SLABS	8

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 37 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 30 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3015 **DESCRIPTION:** RAMP

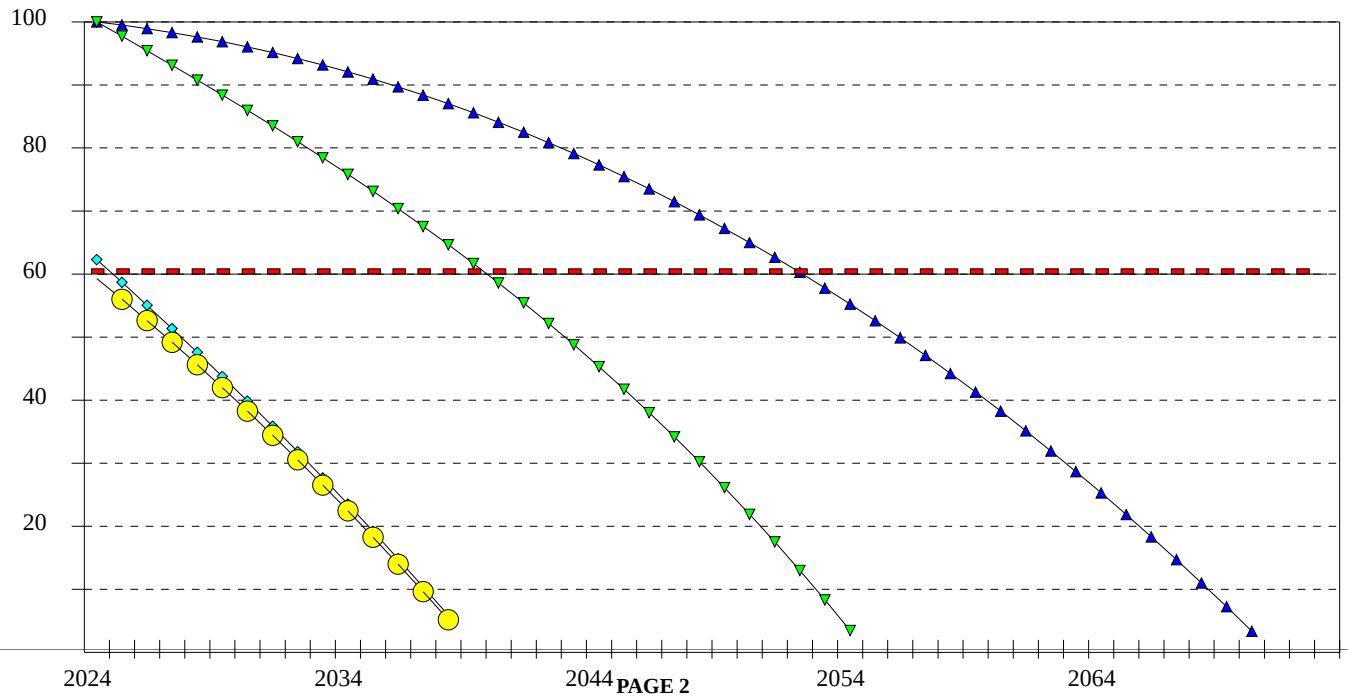
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1978
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 85 SATISFACTORY
ESTIMATED PCI IS: 59 in 2024
NORMAL PCI FOR THIS AGE: 3

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$1,427,255	29 YEARS
▼	REPAIR AND/OR OVERLAY	$609,626	16 YEARS
◆	PATCHING/JOINT REPAIR	$8,509	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4040 **DESCRIPTION:** RUNWAY 23 RUN UP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 82
FEATURE AREA: 71,465 **FEATURE'S LOW PCI:** 72
INSPECTED AREA: 32,000 **AVERAGE PCI:** 79 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 60 in 2024

COMMENTS/HISTORY FOR FEATURE 4040, RUNWAY 23 RUN UP

1997 PCC est
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DISTRESS QUANTITIES FOR FEATURE 4040

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
CORNER BREAK	MED	1	2	SLABS	9
JOINT SEAL DAMAGE	HIGH	16	35	SLABS	12.9
JOINT SEAL DAMAGE	MED	48	107	SLABS	22.5
PATCH>5 SF/UTIL.CUT	LOW	2	4	SLABS	7.7
SHRINKAGE CRACKS	N/A	2	4	SLABS	2.3
SPALLING-JOINTS	MED	2	4	SLABS	9.9
SPALLING-JOINTS	LOW	2	4	SLABS	4.3
SPALLING-CORNERS	HIGH	1	2	SLABS	6.7
SPALLING-CORNERS	MED	3	6	SLABS	13.8
SPALLING-CORNERS	LOW	4	8	SLABS	10.5

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 29 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 29 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 43 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4040 **DESCRIPTION:** RUNWAY 23 RUN UP

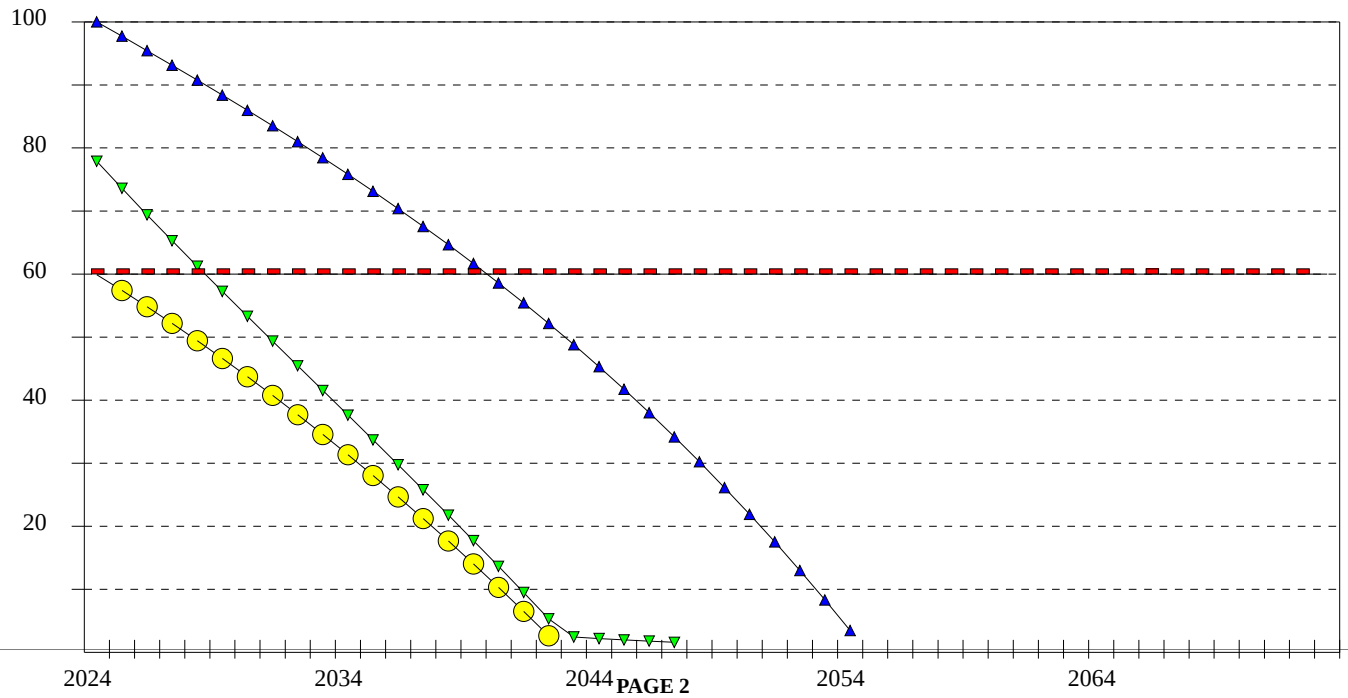
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1997
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 79 SATISFACTORY
ESTIMATED PCI IS: 60 in 2024
NORMAL PCI FOR THIS AGE: 62

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$393,772	16 YEARS
▼	PATCHING/JOINT REPAIR	$9,913	5 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4205 **DESCRIPTION:** RUNWAY 5 RUN UP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 80
FEATURE AREA: 82,880 **FEATURE'S LOW PCI:** 71
INSPECTED AREA: 45,000 **AVERAGE PCI:** 77 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2023

COMMENTS/HISTORY FOR FEATURE 4205, RUNWAY 5 RUN UP

1988 14" PCC Overlay
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DISTRESS QUANTITIES FOR FEATURE 4205

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	LOW	1	1	SLABS	4.8
JOINT SEAL DAMAGE	HIGH	72	132	SLABS	48.2
SETTLEMENT/FAULT	LOW	3	5	SLABS	14.4
SPALLING-JOINTS	HIGH	1	1	SLABS	15
SPALLING-JOINTS	MED	1	1	SLABS	4.2
SPALLING-JOINTS	LOW	1	1	SLABS	1.8
SPALLING-CORNERS	HIGH	2	3	SLABS	11.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 29 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 25 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 46 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4205 **DESCRIPTION:** RUNWAY 5 RUN UP

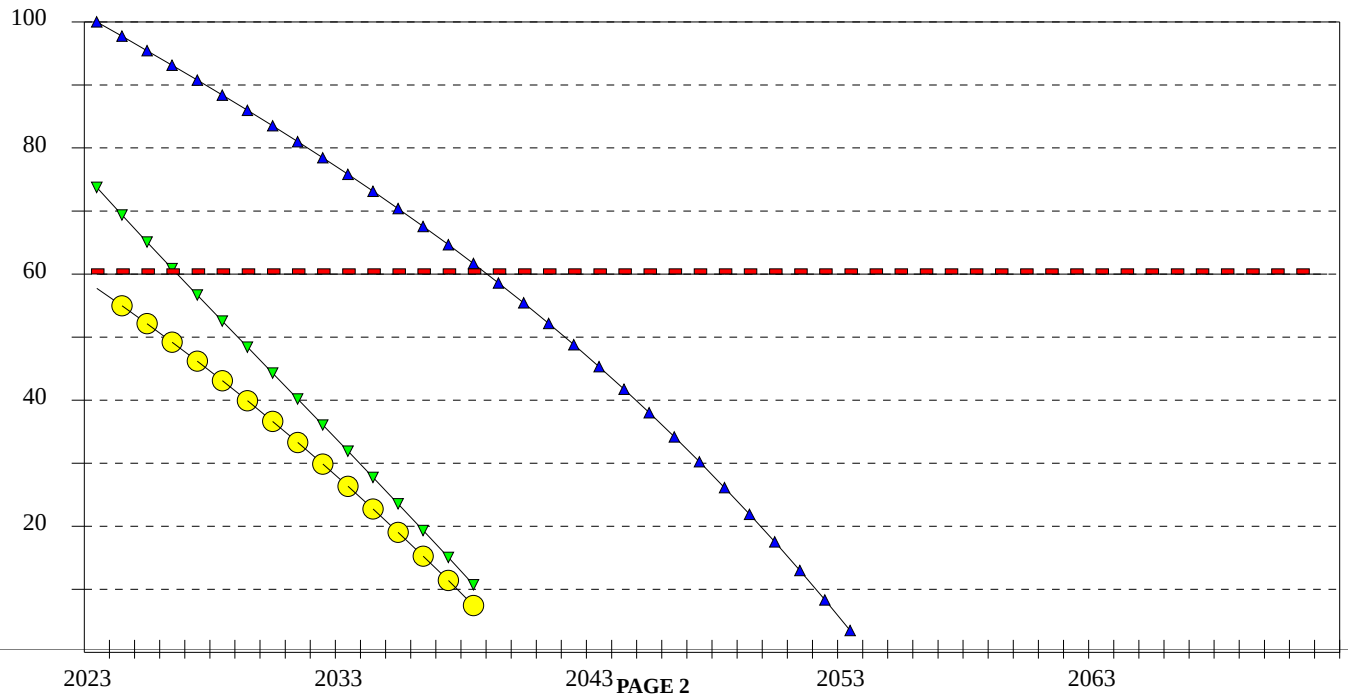
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1988
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 77 SATISFACTORY
ESTIMATED PCI IS: 58 in 2023
NORMAL PCI FOR THIS AGE: 41

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$456,668	16 YEARS
▼	PATCHING/JOINT REPAIR	$15,467	4 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4305 **DESCRIPTION:** RUNWAY 36 RUN UP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 49,151 **FEATURE'S LOW PCI:** 88
INSPECTED AREA: 25,000 **AVERAGE PCI:** 88 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2025

COMMENTS/HISTORY FOR FEATURE 4305, RUNWAY 36 RUN UP

1978 PCC est
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DISTRESS QUANTITIES FOR FEATURE 4305

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	40	78	SLABS	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	67 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4305 **DESCRIPTION:** RUNWAY 36 RUN UP

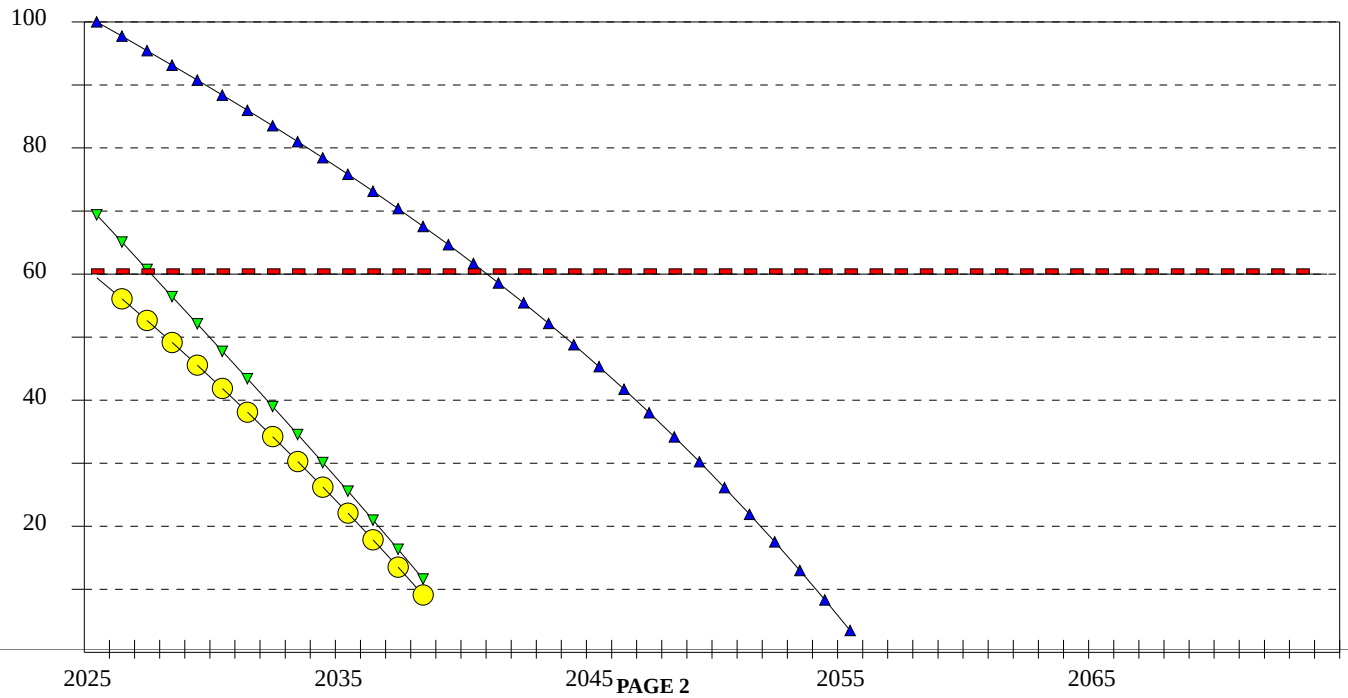
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1978
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 88 GOOD
ESTIMATED PCI IS: 59 in 2025
NORMAL PCI FOR THIS AGE: 0

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$270,822	16 YEARS
▼	JOINT/CRACK REPAIR	$8,807	3 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4310 **DESCRIPTION:** RUNWAY 36 RUN UP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC **FEATURE'S HIGH PCI:** 80
FEATURE AREA: 59,415 **FEATURE'S LOW PCI:** 75
INSPECTED AREA: 20,000 **AVERAGE PCI:** 77 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2026

COMMENTS/HISTORY FOR FEATURE 4310, RUNWAY 36 RUN UP

1997 AC est
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DISTRESS QUANTITIES FOR FEATURE 4310

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	434	1,289	L.F.	51.5
LONG.& TRANS. CRACK	LOW	931	2,765	L.F.	45.7
WEATHERING	LOW	1,800	5,347	S.F.	2.7

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	66 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	34 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 4310 **DESCRIPTION:** RUNWAY 36 RUN UP

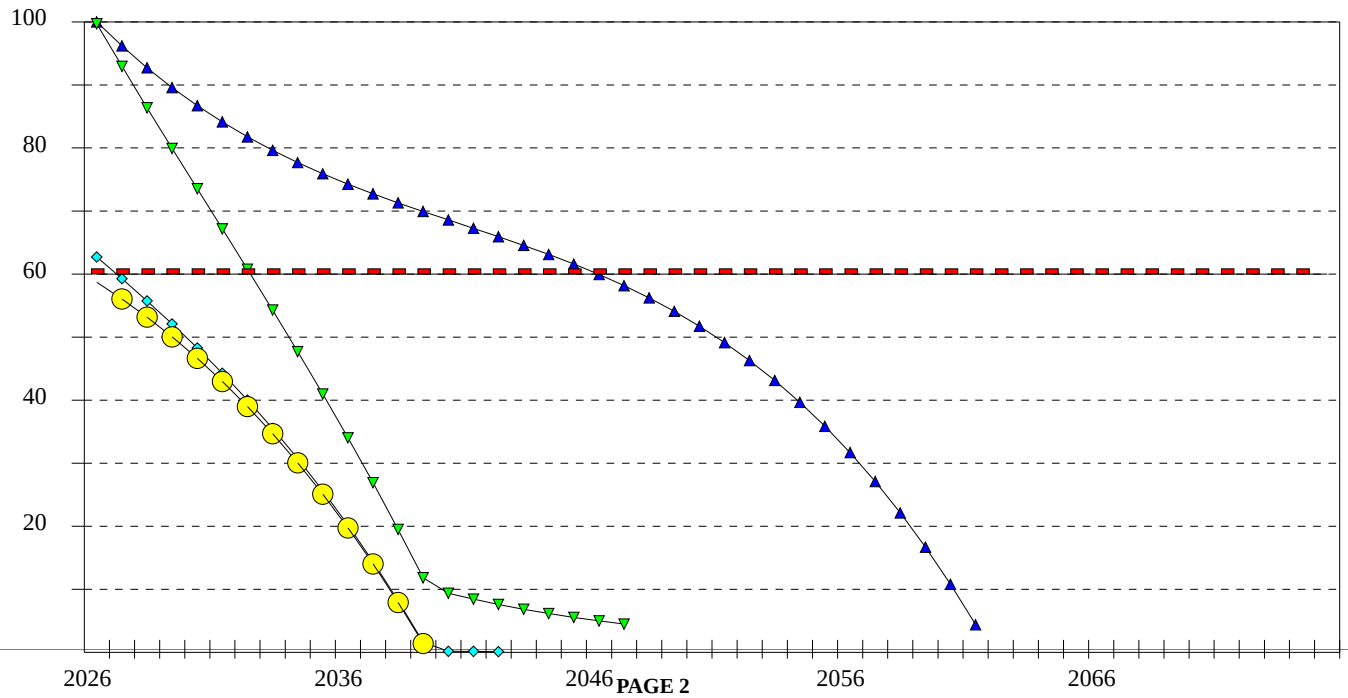
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026
PAVEMENT TYPE: AC
CONSTRUCTION YEAR: 1997
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 77 SATISFACTORY
ESTIMATED PCI IS: 59 in 2026
NORMAL PCI FOR THIS AGE: 42

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$85,557	20 YEARS
▼	SURFACE TREATMENT	$24,770	7 YEARS
◆	CRACK REPAIR	$5,026	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 6140 **DESCRIPTION:** RUNWAY 18-36 TAXI

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 79
FEATURE AREA: 40,710 **FEATURE'S LOW PCI:** 77
INSPECTED AREA: 20,000 **AVERAGE PCI:** 78 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2023

COMMENTS/HISTORY FOR FEATURE 6140, RUNWAY 18-36 TAXI

AC 1997 est
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DISTRESS QUANTITIES FOR FEATURE 6140

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	11	22	S.F.	10.5
LONG.& TRANS. CRACK	MED	325	661	L.F.	48.4
LONG.& TRANS. CRACK	LOW	507	1,032	L.F.	29.9
WEATHERING	LOW	7,500	15,266	S.F.	11.1

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	11 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	56 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	34 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 6140 **DESCRIPTION:** RUNWAY 18-36 TAXI

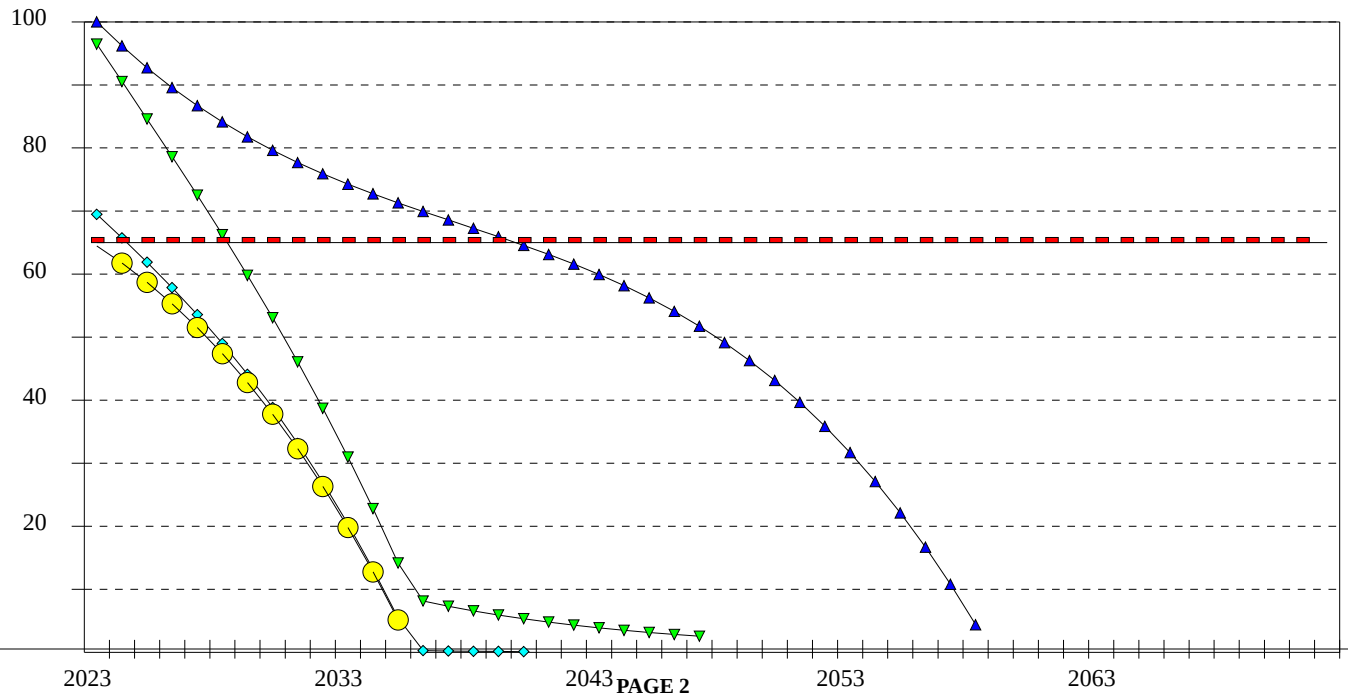
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1997
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 78 SATISFACTORY
ESTIMATED PCI IS: 64 in 2023
NORMAL PCI FOR THIS AGE: 46

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$58,622	17 YEARS
▼	SURFACE TREATMENT	$16,696	6 YEARS
◆	CRACK REPAIR	$2,099	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7005 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 76
FEATURE AREA: 25,013 **FEATURE'S LOW PCI:** 73
INSPECTED AREA: 15,000 **AVERAGE PCI:** 74 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 63 in 2022

COMMENTS/HISTORY FOR FEATURE 7005, RUNWAY 14-32 KEEL

1998: 2.5" Mill & 4.5" AC Overlay
1980: 3" AC Overlay
1975: 3" AC / 4" Base
1969: 2" AC / 8" COld Laid Base

DISTRESS QUANTITIES FOR FEATURE 7005

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	344	573	L.F.	43.4
LONG.& TRANS. CRACK	LOW	964	1,607	L.F.	49
WEATHERING	LOW	4,200	7,003	S.F.	7.5

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	64 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	36 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7005 **DESCRIPTION:** RUNWAY 14-32 KEEL

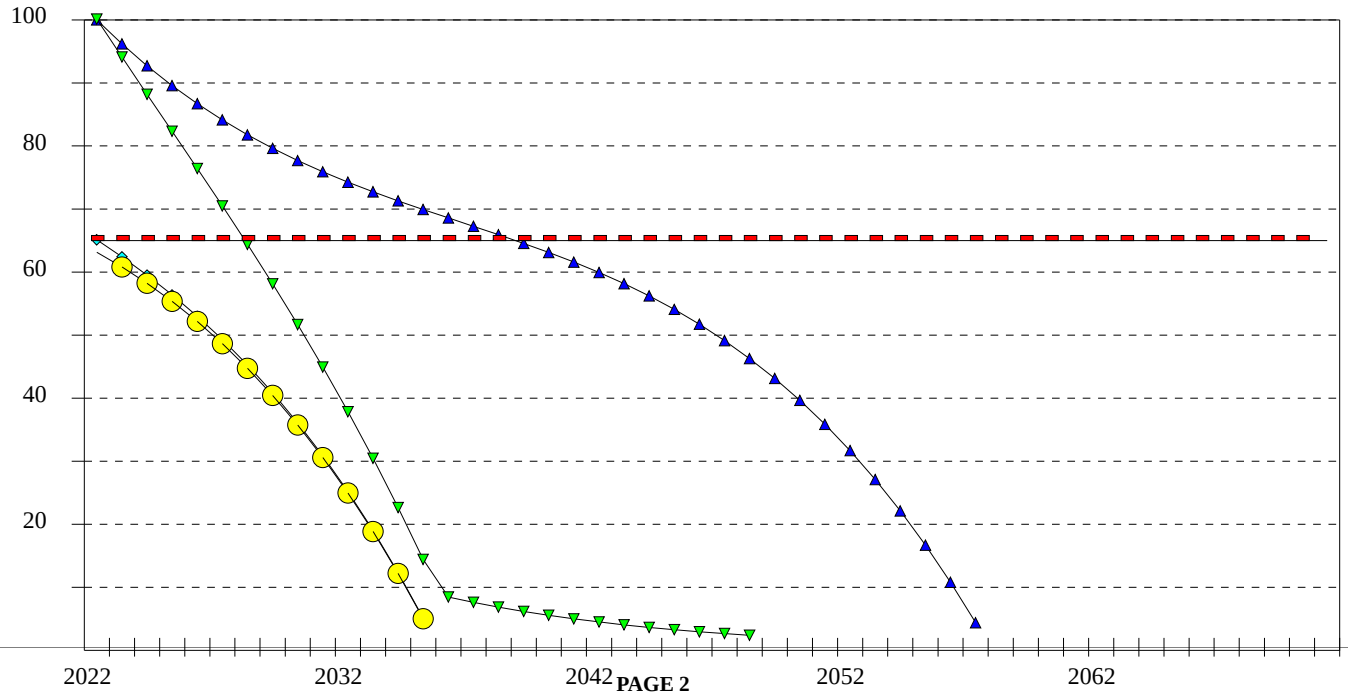
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 74 SATISFACTORY
ESTIMATED PCI IS: 63 in 2022
NORMAL PCI FOR THIS AGE: 51

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$36,018	17 YEARS
▼	SURFACE TREATMENT	$10,465	6 YEARS
◆	CRACK REPAIR	$2,703	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7010 **DESCRIPTION:** RUNWAY 14-32 WING

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 80
FEATURE AREA: 50,158 **FEATURE'S LOW PCI:** 71
INSPECTED AREA: 20,000 **AVERAGE PCI:** 76 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 63 in 2023

COMMENTS/HISTORY FOR FEATURE 7010, RUNWAY 14-32 WING

1998: 2.5" Mill & 4.5" AC Overlay
1980: 3" AC Overlay
1975: 3" AC / 4" Base
1969: 2" AC / 8" COld Laid Base

DISTRESS QUANTITIES FOR FEATURE 7010

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	375	940	L.F.	44.5
LONG.& TRANS. CRACK	LOW	970	2,432	L.F.	45.7
WEATHERING	LOW	6,600	16,552	S.F.	9.7

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	63 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	37 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7010 **DESCRIPTION:** RUNWAY 14-32 WING

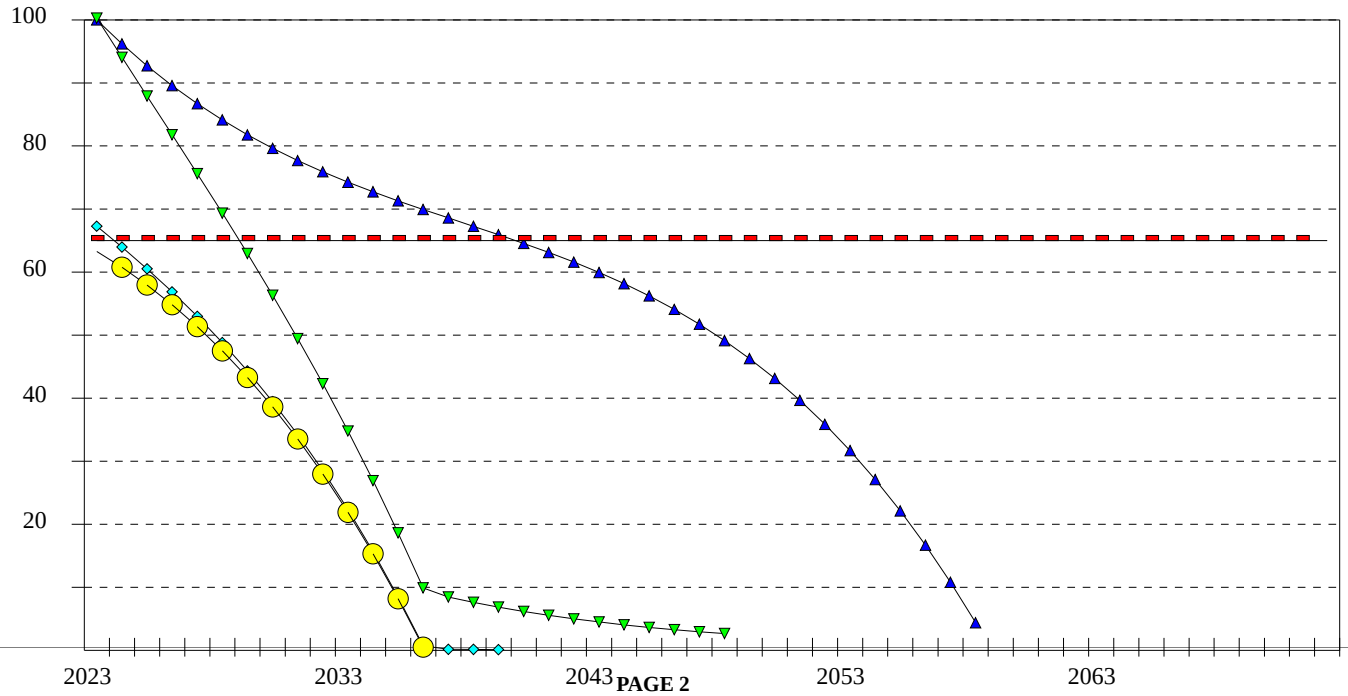
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 76 SATISFACTORY
ESTIMATED PCI IS: 63 in 2023
NORMAL PCI FOR THIS AGE: 49

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$72,227	17 YEARS
▼	SURFACE TREATMENT	$20,727	6 YEARS
◆	CRACK REPAIR	$4,181	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7015 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 81
FEATURE AREA: 70,476 **FEATURE'S LOW PCI:** 73
INSPECTED AREA: 27,000 **AVERAGE PCI:** 77 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 65 in 2023

COMMENTS/HISTORY FOR FEATURE 7015, RUNWAY 14-32 KEEL

1998: 2.5" Mill & 4.5" AC Overlay
1975: 3" AC Overlay
1964: 1.5" AC / 4" Base
1943: 2" AC / 8" COld Laid AC Base

DISTRESS QUANTITIES FOR FEATURE 7015

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	194	506	L.F.	20.8
LONG.& TRANS. CRACK	LOW	1,702	4,442	L.F.	63.8
WEATHERING	LOW	14,000	36,543	S.F.	15.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	62 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	38 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

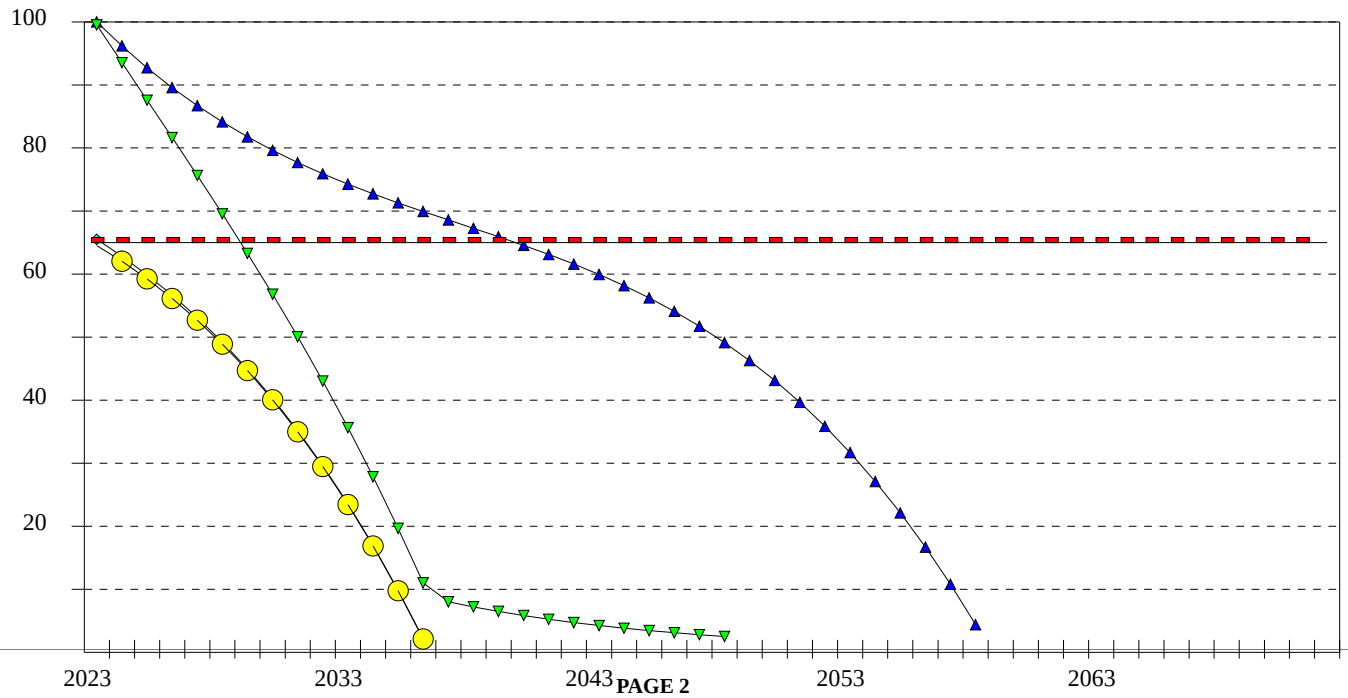
FEATURE: 7015 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
INSPECTION DATE: 9-10-15
PAVEMENT TYPE: AC OVERLAY
AVERAGE PCI AT INSPECTION: 77 SATISFACTORY
CONSTRUCTION YEAR: 1998
ESTIMATED PCI IS: 65 in 2023
MINIMUM SERVICE LEVEL: 65
NORMAL PCI FOR THIS AGE: 49

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$101,485	17 YEARS
▼	SURFACE TREATMENT	$28,113	6 YEARS
◆	CRACK REPAIR	$6,135	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7020 **DESCRIPTION:** RUNWAY 14-32 WING

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 140,952 **FEATURE'S LOW PCI:** 76
INSPECTED AREA: 39,000 **AVERAGE PCI:** 81 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2025

COMMENTS/HISTORY FOR FEATURE 7020, RUNWAY 14-32 WING

1998: 2.5" Mill & 4.5" AC Overlay
1975: 3" AC Overlay
1964: 1.5" AC / 4" Base
1943: 2" AC / 8" COld Laid AC Base

DISTRESS QUANTITIES FOR FEATURE 7020

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
DEPRESSION	LOW	3	10	S.F.	0
LONG.& TRANS. CRACK	MED	17	61	L.F.	7.4
LONG.& TRANS. CRACK	LOW	2,066	7,466	L.F.	77.9
WEATHERING	LOW	12,000	43,369	S.F.	14.5

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	62 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	38 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7020 **DESCRIPTION:** RUNWAY 14-32 WING

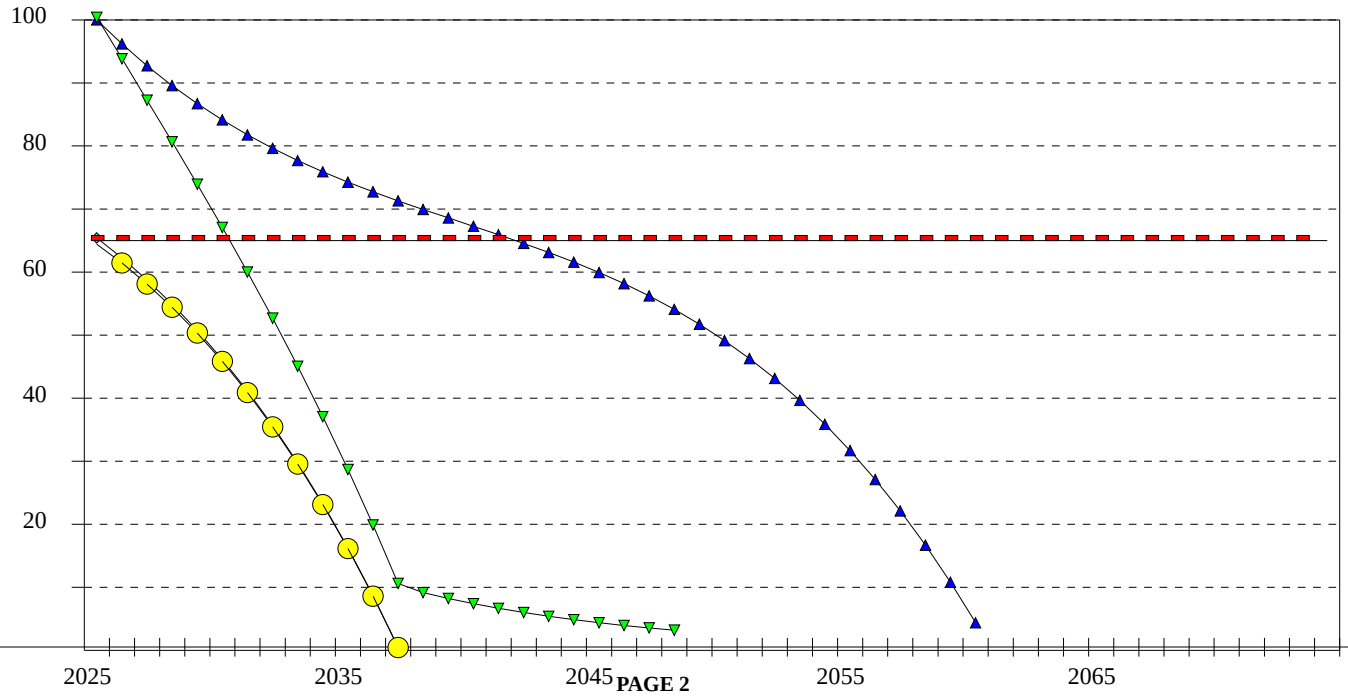
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 81 SATISFACTORY
ESTIMATED PCI IS: 64 in 2025
NORMAL PCI FOR THIS AGE: 43

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$202,970	17 YEARS
▼	SURFACE TREATMENT	$55,046	6 YEARS
◆	CRACK REPAIR	$9,333	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7025 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 21,236 **FEATURE'S LOW PCI:** 93
INSPECTED AREA: 10,000 **AVERAGE PCI:** 93 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 93 in 2015

COMMENTS/HISTORY FOR FEATURE 7025, RUNWAY 14-32 KEEL

1998: 16" P501 / 6" P401 / 12" P155 (25'x25'slabs)
ASSUME SAME SECTION AS RUNWAY EXTENSION
AT ARRESTER
*

DISTRESS QUANTITIES FOR FEATURE 7025

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	MED	8	17	SLABS	49.7
JOINT SEAL DAMAGE	LOW	8	17	SLABS	14.2
SPALLING-CORNERS	LOW	1	2	SLABS	36

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	12 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	33 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	55 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

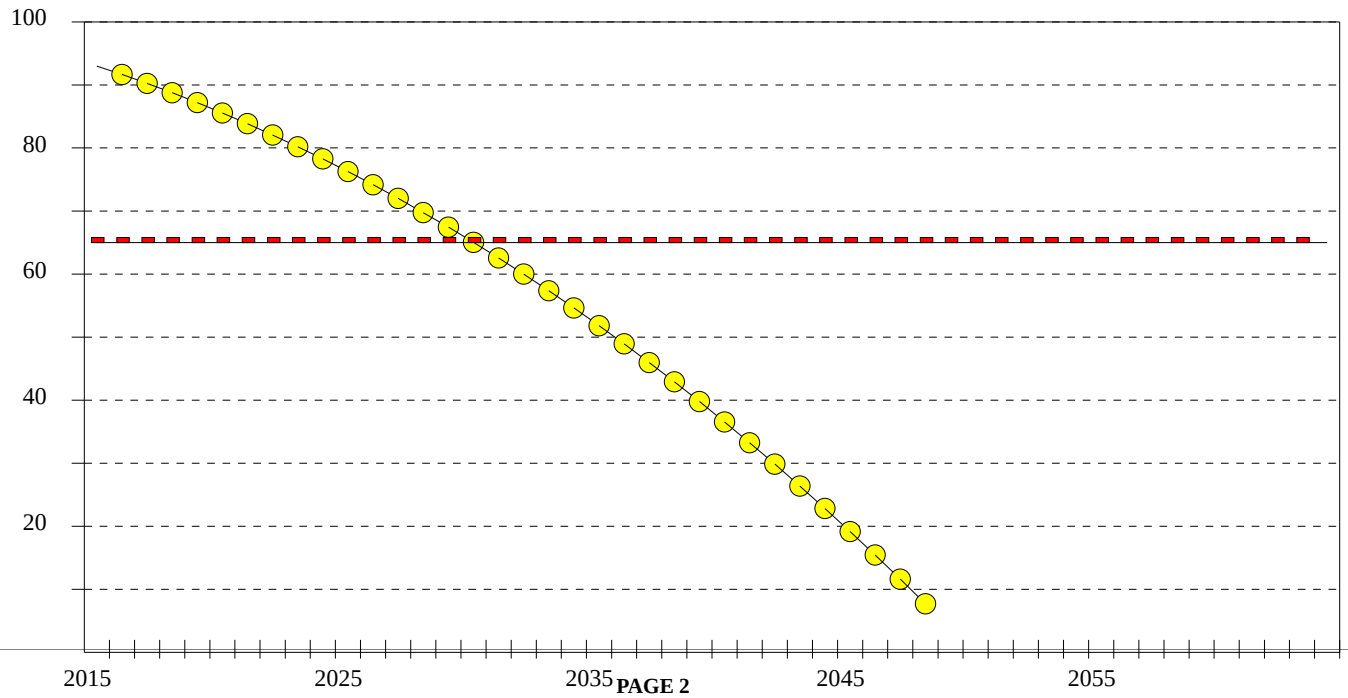
FEATURE: 7025 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 93 GOOD
CONSTRUCTION YEAR: 1998 **ESTIMATED PCI IS:** 93 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 82

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7030 **DESCRIPTION:** RUNWAY 14-32 WINGS

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 42,472 **FEATURE'S LOW PCI:** 84
INSPECTED AREA: 20,000 **AVERAGE PCI:** 87 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 87 in 2015

COMMENTS/HISTORY FOR FEATURE 7030, RUNWAY 14-32 WINGS

1998: 16" P501 / 6" P401 / 12" P155 (25'x25'slabs)
ASSUME SAME SECTION AS RUNWAY EXTENSION
*
*

DISTRESS QUANTITIES FOR FEATURE 7030

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	32	67	SLABS	92.6
SPALLING-JOINTS	LOW	1	2	SLABS	7.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	5 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	31 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	64 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

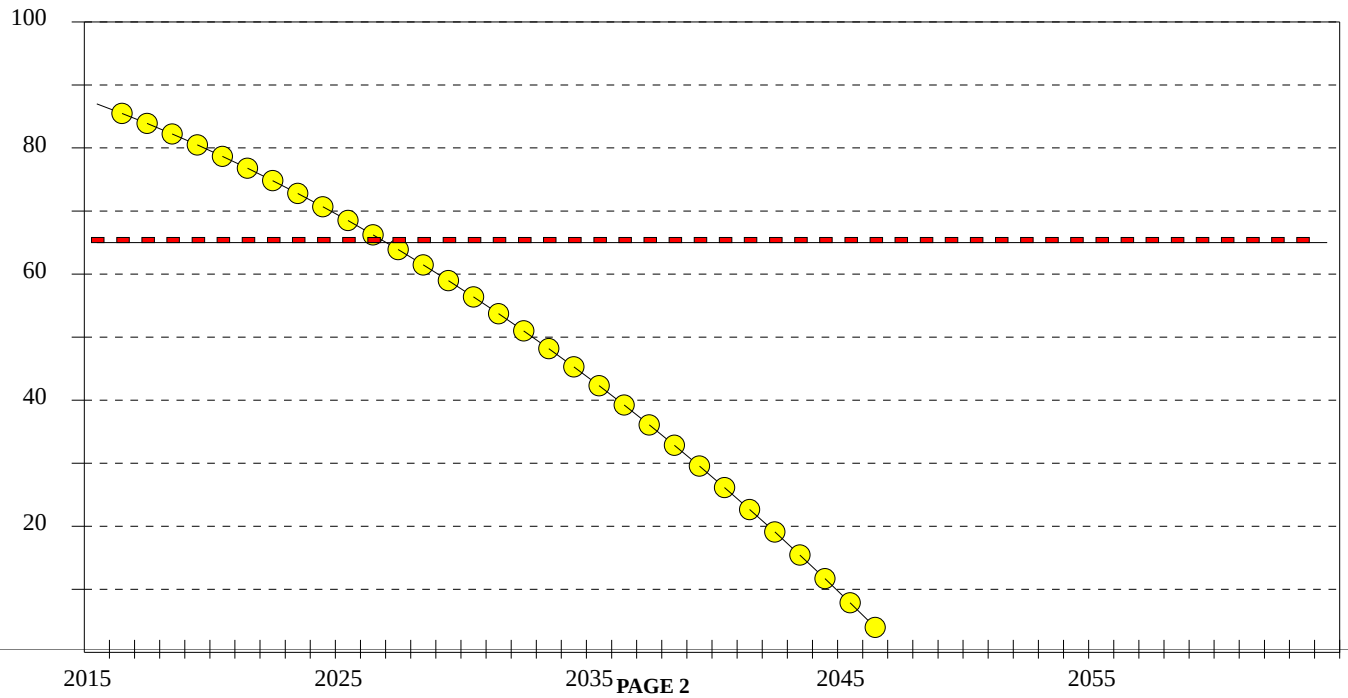
FEATURE: 7030 **DESCRIPTION:** RUNWAY 14-32 WINGS

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 87 GOOD
CONSTRUCTION YEAR: 1998 **ESTIMATED PCI IS:** 87 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 82

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7035 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 80
FEATURE AREA: 109,270 **FEATURE'S LOW PCI:** 68
INSPECTED AREA: 35,000 **AVERAGE PCI:** 73 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2021

COMMENTS/HISTORY FOR FEATURE 7035, RUNWAY 14-32 KEEL

1998: 2.5" Mill & 4.5" AC Overlay
1975: 3" AC Overlay
1964: 1.5" AC / 4" Base
1943: 2" AC / 8" COld Laid AC Base

DISTRESS QUANTITIES FOR FEATURE 7035

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	361	1,127	L.F.	31.5
LONG.& TRANS. CRACK	LOW	2,834	8,847	L.F.	61.5
WEATHERING	MED	30	93	S.F.	.2
WEATHERING	LOW	7,200	22,478	S.F.	6.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	64 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	36 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7035 **DESCRIPTION:** RUNWAY 14-32 KEEL

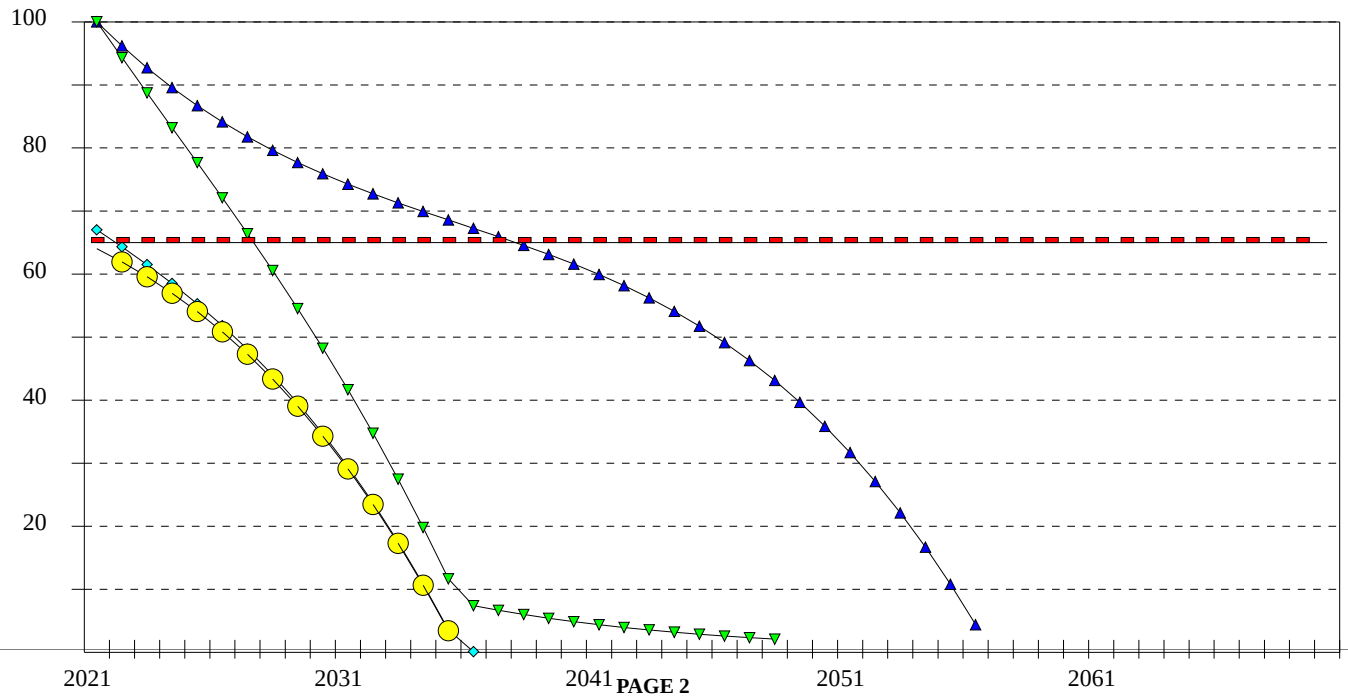
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 73 SATISFACTORY
ESTIMATED PCI IS: 64 in 2021
NORMAL PCI FOR THIS AGE: 54

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$157,348	17 YEARS
▼	SURFACE TREATMENT	$44,012	7 YEARS
◆	CRACK REPAIR	$12,367	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7040 **DESCRIPTION:** RUNWAY 14-32 WING

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 85
FEATURE AREA: 218,549 **FEATURE'S LOW PCI:** 69
INSPECTED AREA: 50,000 **AVERAGE PCI:** 81 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2025

COMMENTS/HISTORY FOR FEATURE 7040, RUNWAY 14-32 WING

1998: 2.5" Mill & 4.5" AC Overlay
1975: 3" AC Overlay
1964: 1.5" AC / 4" Base
1943: 2" AC / 8" COld Laid AC Base

DISTRESS QUANTITIES FOR FEATURE 7040

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT REF. CRACKING	MED	6	26	L.F.	0
LONG.& TRANS. CRACK	MED	75	327	L.F.	16.5
LONG.& TRANS. CRACK	LOW	2,495	10,905	L.F.	67.9
WEATHERING	LOW	17,300	75,617	S.F.	15.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	62 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	38 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

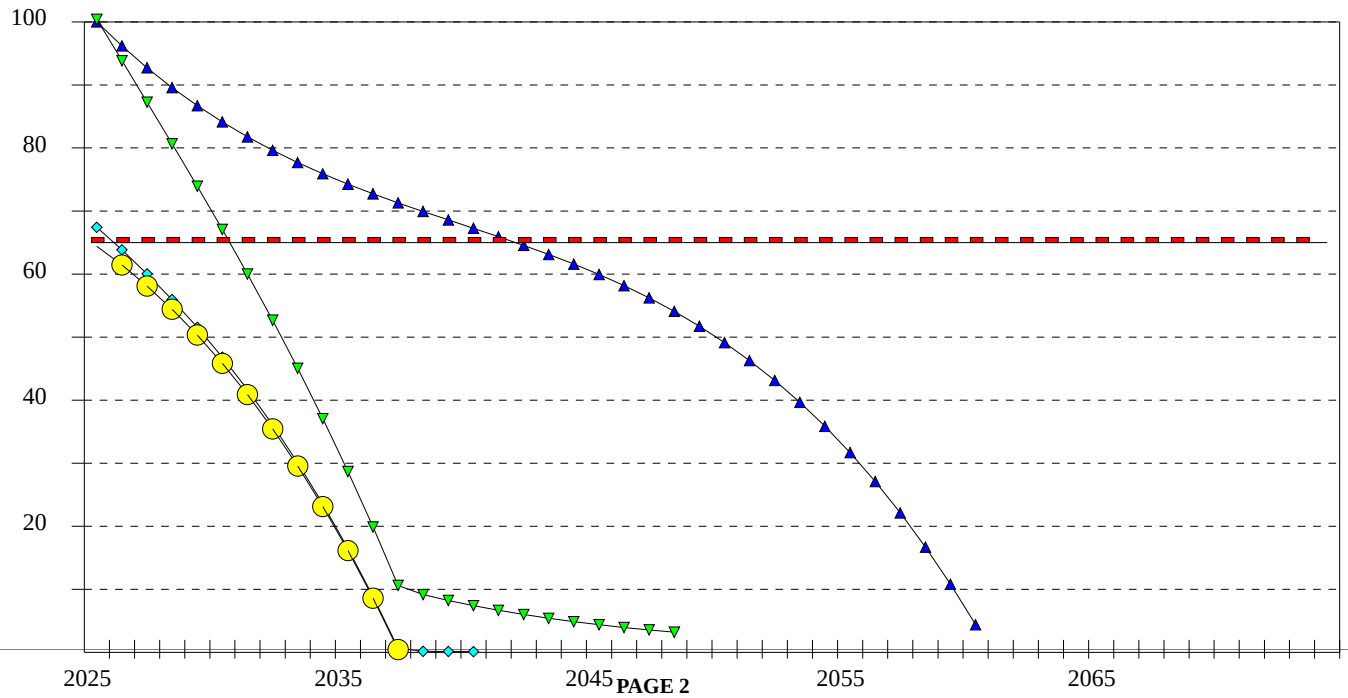
FEATURE: 7040 **DESCRIPTION:** RUNWAY 14-32 WING

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
INSPECTION DATE: 9-10-15
PAVEMENT TYPE: AC OVERLAY
AVERAGE PCI AT INSPECTION: 81 SATISFACTORY
CONSTRUCTION YEAR: 1998
ESTIMATED PCI IS: 64 in 2025
MINIMUM SERVICE LEVEL: 65
NORMAL PCI FOR THIS AGE: 43

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$314,710	17 YEARS
▼	SURFACE TREATMENT	$85,671	6 YEARS
◆	CRACK REPAIR	$13,959	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7045 **DESCRIPTION:** RUNWAY 14-32 KEEL

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 86
FEATURE AREA: 94,985 **FEATURE'S LOW PCI:** 75
INSPECTED AREA: 30,000 **AVERAGE PCI:** 80 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2023

COMMENTS/HISTORY FOR FEATURE 7045, RUNWAY 14-32 KEEL

1998: 16" P501 / 6" P401 / 12" P155 (25'x25'slabs)
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DISTRESS QUANTITIES FOR FEATURE 7045

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	48	152	SLABS	54.3
PATCH<5 SF	LOW	5	15	SLABS	6.3
SHRINKAGE CRACKS	N/A	5	15	SLABS	7.6
SPALLING-CORNERS	HIGH	2	6	SLABS	17.6
SPALLING-CORNERS	MED	1	3	SLABS	6.3
SPALLING-CORNERS	LOW	2	6	SLABS	7.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 11 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 37 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 53 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7045 **DESCRIPTION:** RUNWAY 14-32 KEEL

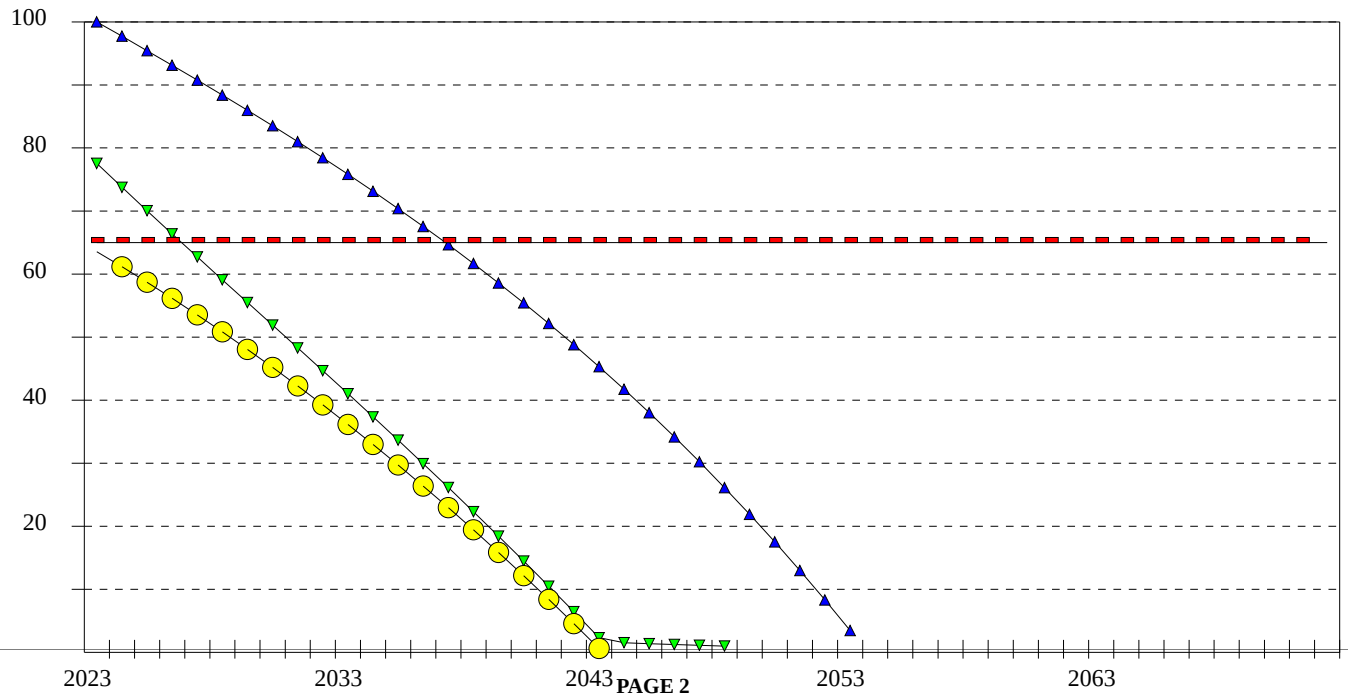
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 80 SATISFACTORY
ESTIMATED PCI IS: 64 in 2023
NORMAL PCI FOR THIS AGE: 67

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$523,367	14 YEARS
▼	PATCHING/JOINT REPAIR	$18,078	4 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7050 **DESCRIPTION:** RUNWAY 14-32 WING

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 191,677 **FEATURE'S LOW PCI:** 70
INSPECTED AREA: 50,000 **AVERAGE PCI:** 83 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 63 in 2025

COMMENTS/HISTORY FOR FEATURE 7050, RUNWAY 14-32 WING

1998: 16" P501 / 6" P401 / 12" P155 (25'x25'slabs)
*
*
*

DISTRESS QUANTITIES FOR FEATURE 7050

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	HIGH	80	306	SLABS	62.9
PATCH<5 SF	LOW	7	26	SLABS	6.1
SETTLEMENT/FAULT	LOW	3	11	SLABS	12
SHRINKAGE CRACKS	N/A	8	30	SLABS	8.3
SPALLING-CORNERS	LOW	5	19	SLABS	10.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	12 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	37 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	52 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7050 **DESCRIPTION:** RUNWAY 14-32 WING

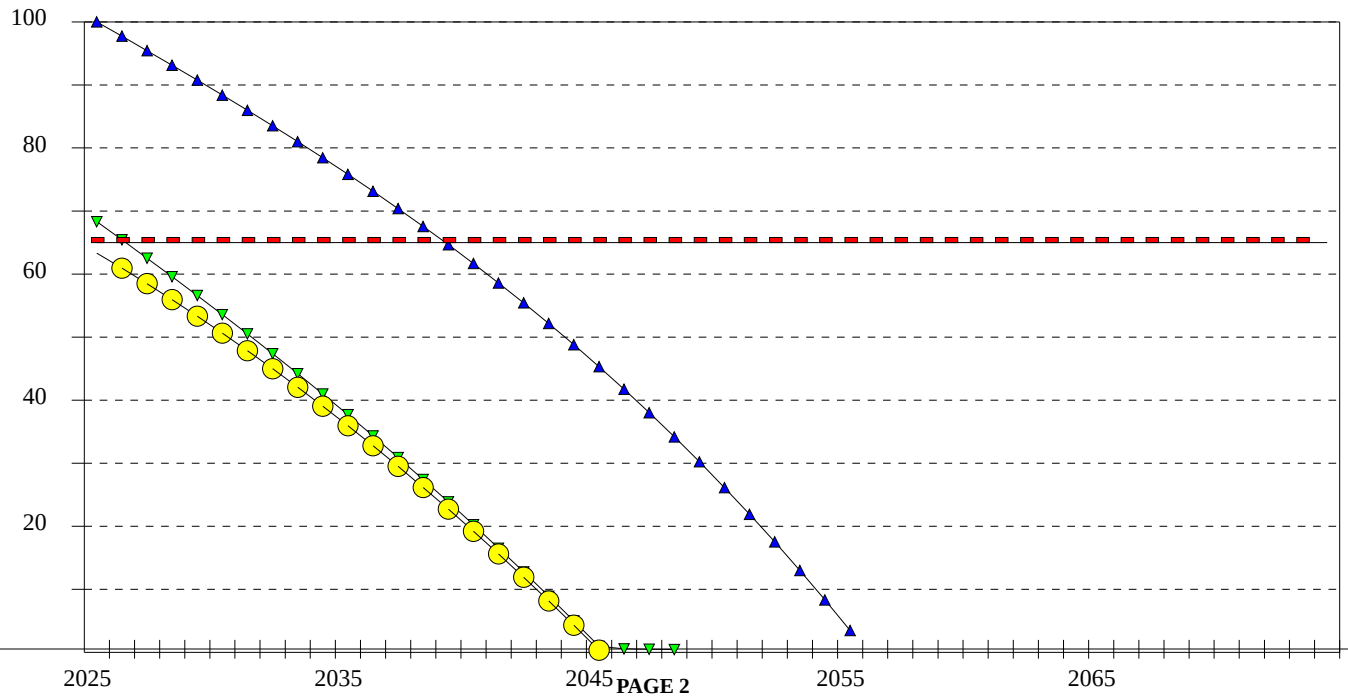
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1998
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 83 SATISFACTORY
ESTIMATED PCI IS: 63 in 2025
NORMAL PCI FOR THIS AGE: 62

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$1,056,140	14 YEARS
▼	PATCHING/JOINT REPAIR	$35,628	2 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7055 **DESCRIPTION:** RUNWAY 14-32

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 94
FEATURE AREA: 31,494 **FEATURE'S LOW PCI:** 86
INSPECTED AREA: 18,000 **AVERAGE PCI:** 90 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 90 in 2015

COMMENTS/HISTORY FOR FEATURE 7055, RUNWAY 14-32

2009 AC OVERLAY
1998: 2.5" Mill & 4.5" AC Overlay
1975: 3" AC Overlay
1964: 1.5" AC / 4" Base/1943: 2" AC / 8" COld Laid AC Base

DISTRESS QUANTITIES FOR FEATURE 7055

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	24	42	L.F.	17
LONG.& TRANS. CRACK	LOW	518	906	L.F.	82.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

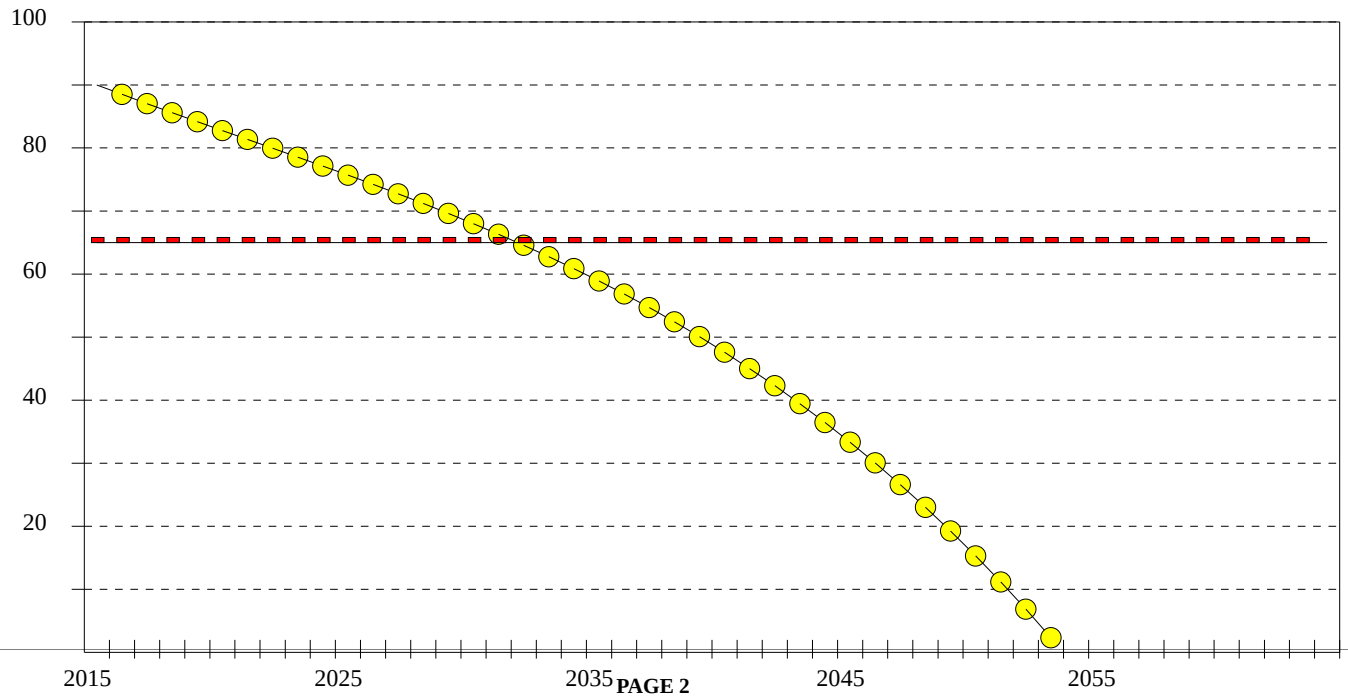
FEATURE: 7055 **DESCRIPTION:** RUNWAY 14-32

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 90 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 90 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 91

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 7060 **DESCRIPTION:** RUNWAY 14-32

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 65,462 **FEATURE'S LOW PCI:** 95
INSPECTED AREA: 31,000 **AVERAGE PCI:** 97 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 93 in 2015

COMMENTS/HISTORY FOR FEATURE 7060, RUNWAY 14-32

2009 AC OVERLAY
1998: 2.5" Mill & 4.5" AC Overlay
1975: 3" AC Overlay
1964: 1.5" AC / 4" Base/1943: 2" AC / 8" COld Laid AC Base

DISTRESS QUANTITIES FOR FEATURE 7060

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	170	359	L.F.	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

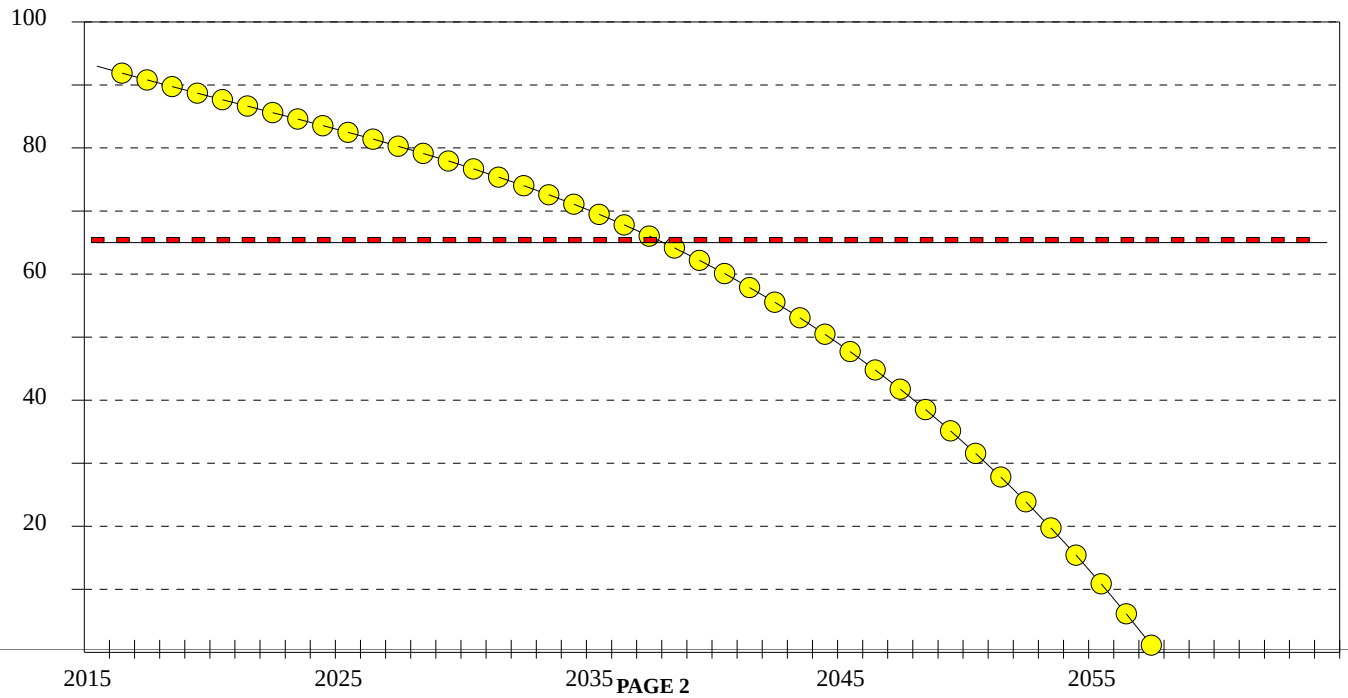
FEATURE: 7060 **DESCRIPTION:** RUNWAY 14-32

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-16-15
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 97 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 93 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 91

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 9105 **DESCRIPTION:** RUNWAY 5-23

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 89
FEATURE AREA: 30,000 **FEATURE'S LOW PCI:** 83
INSPECTED AREA: 20,000 **AVERAGE PCI:** 86 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2023

COMMENTS/HISTORY FOR FEATURE 9105, RUNWAY 5-23

2009 PCC
*
*
*

DISTRESS QUANTITIES FOR FEATURE 9105

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
PATCH<5 SF	LOW	32	48	SLABS	68.1
SHRINKAGE CRACKS	N/A	1	1	SLABS	3.7
SPALLING-JOINTS	LOW	1	1	SLABS	6.8
SPALLING-CORNERS	HIGH	1	1	SLABS	21.2

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	12 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	54 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	34 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 9105 **DESCRIPTION:** RUNWAY 5-23

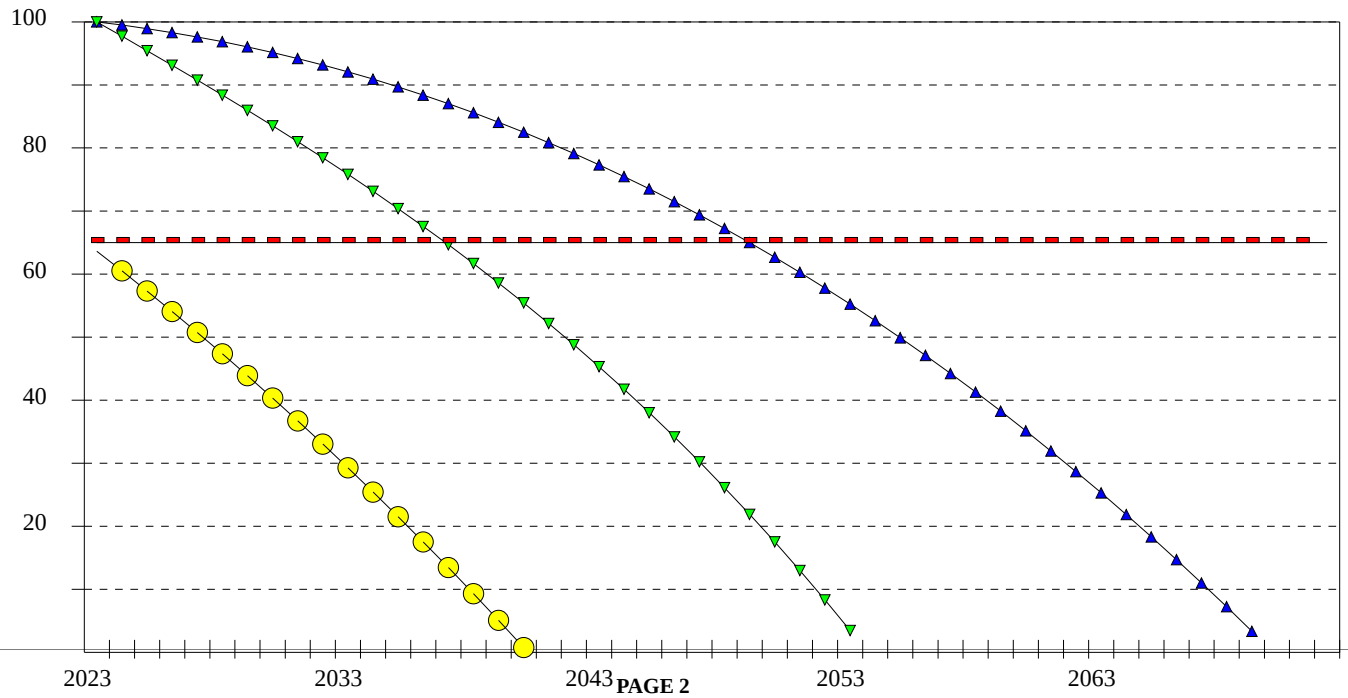
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 2009
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 9-10-15
AVERAGE PCI AT INSPECTION: 86 GOOD
ESTIMATED PCI IS: 64 in 2023
NORMAL PCI FOR THIS AGE: 87

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$386,999	26 YEARS
▼	REPAIR AND/OR OVERLAY	$165,300	14 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 9125 **DESCRIPTION:** RUNWAY 5-23 KEEL

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 94
FEATURE AREA: 467,982 **FEATURE'S LOW PCI:** 81
INSPECTED AREA: 70,000 **AVERAGE PCI:** 88 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 88 in 2015

COMMENTS/HISTORY FOR FEATURE 9125, RUNWAY 5-23 KEEL

2009 AC OVERLAY
1990: 2"-6" AC Overlay
1979: 3" AC Overlay
1962: 11" PCC

DISTRESS QUANTITIES FOR FEATURE 9125

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	18	120	L.F.	5.8
LONG.& TRANS. CRACK	LOW	2,598	17,368	L.F.	91.6
PATCH & UTILITY CUT	LOW	2	13	S.F.	2.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	2 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	66 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

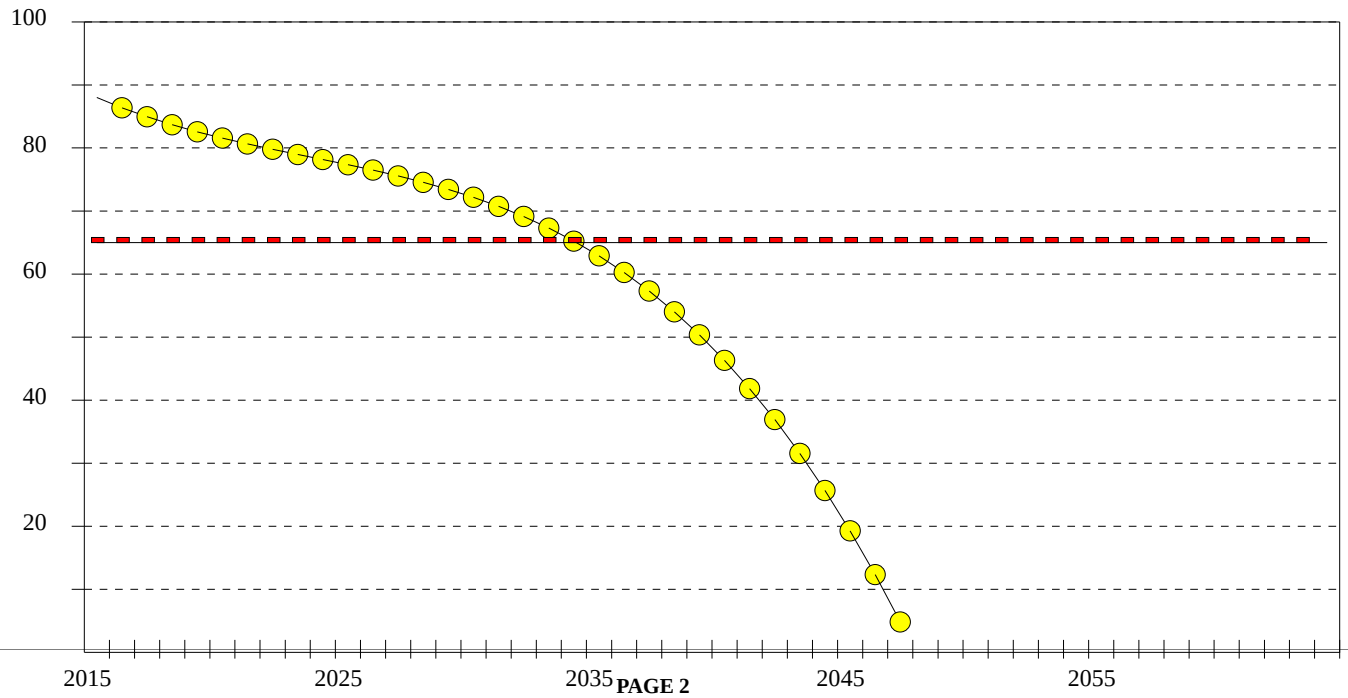
FEATURE: 9125 **DESCRIPTION:** RUNWAY 5-23 KEEL

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 88 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 88 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 81

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 9130 **DESCRIPTION:** RUNWAY 5-23 WING

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 95
FEATURE AREA: 868,276 **FEATURE'S LOW PCI:** 86
INSPECTED AREA: 140,000 **AVERAGE PCI:** 90 GOOD
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 90 in 2015

COMMENTS/HISTORY FOR FEATURE 9130, RUNWAY 5-23 WING

2009 AC OVERLAY
1990: 2"-6" AC Overlay
1979: 3" AC Overlay
1962: 11" PCC

DISTRESS QUANTITIES FOR FEATURE 9130

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	4,518	28,020	L.F.	100

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: TERRE HAUTE INTERNATIONAL

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

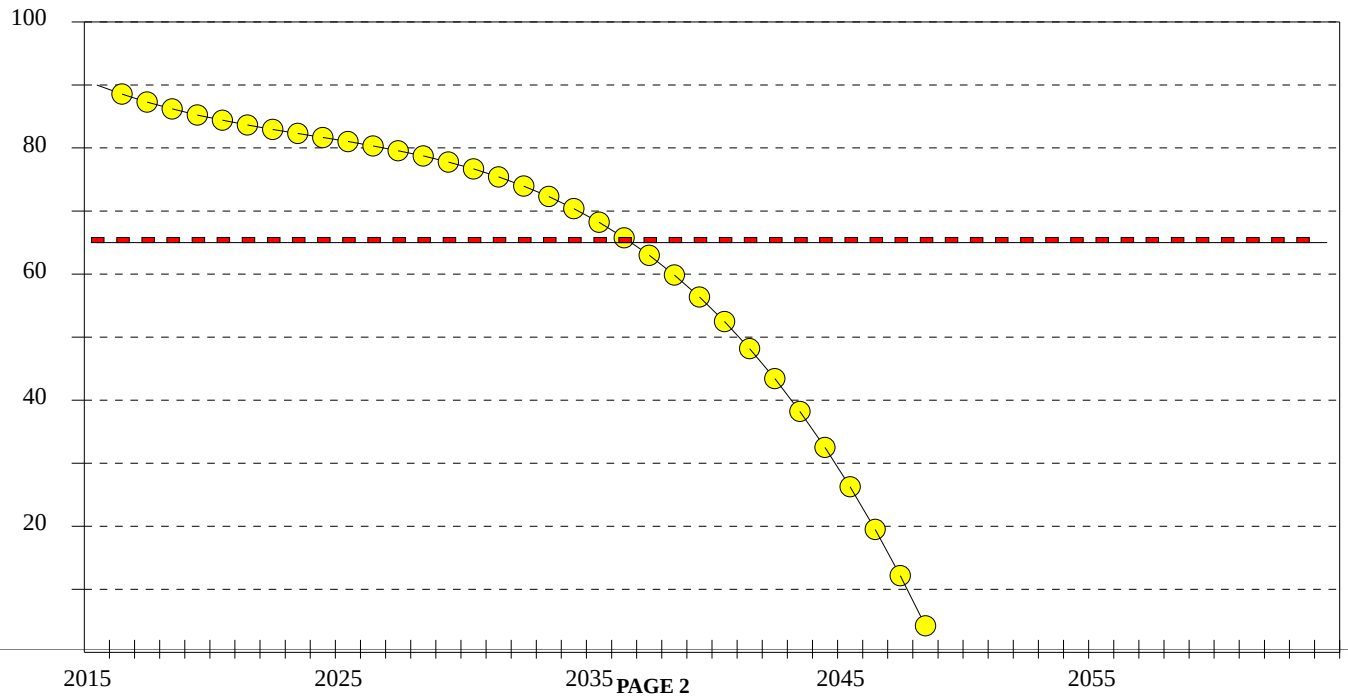
FEATURE: 9130 **DESCRIPTION:** RUNWAY 5-23 WING

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 9-10-15
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 90 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 90 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 81

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



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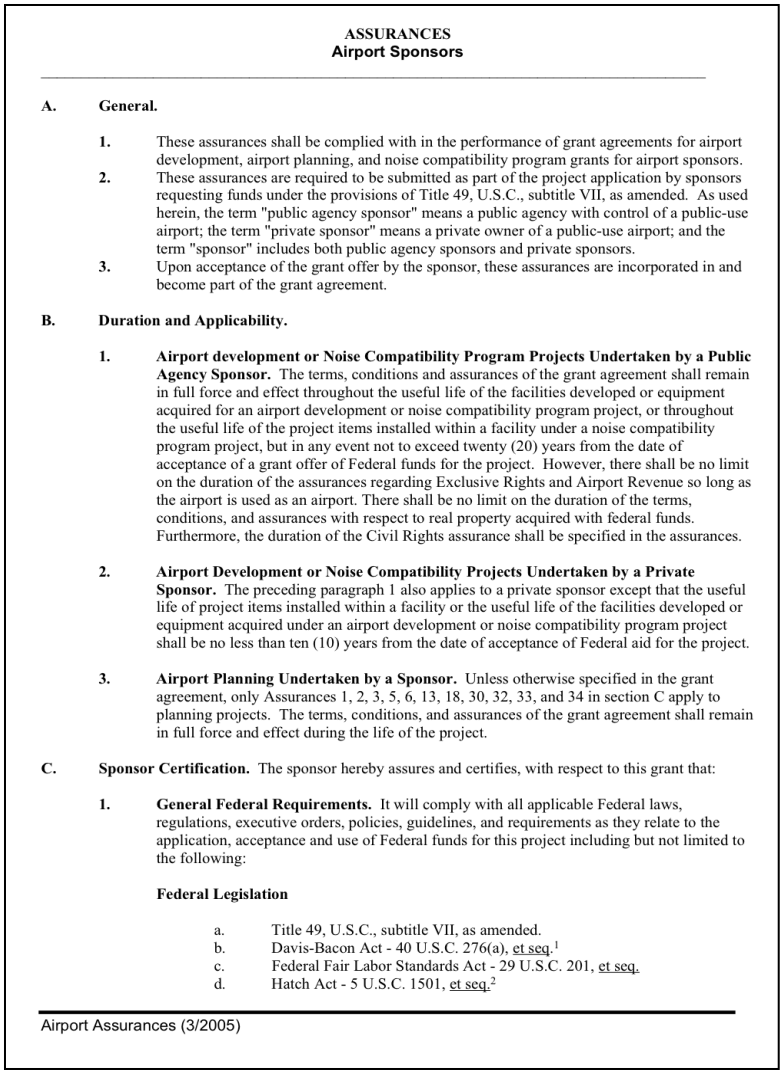
Appendix F. Airport Responsibilities

Grant Assurances

In 1995, Congress mandated that the FAA require, as a condition of grant funding, that airport sponsors prepare documentation of a maintenance management program on pavement that has been constructed, reconstructed, or repaired with Federal assistance.

This report fulfills many of the grant assurance requirements, including documenting:

- Locating all runways, taxiways, and aprons.
- Documenting pavement dimensions.
- Documenting types of pavement.
- Documenting year of construction or most recent major rehabilitation.



ASSURANCES
Airport Sponsors

A. General.

1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.
2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.
3. Upon acceptance of the grant offer by the sponsor, these assurances are incorporated in and become part of the grant agreement.

B. Duration and Applicability.

1. **Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.** The terms, conditions and assurances of the grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.
2. **Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor.** The preceding paragraph 1 also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.
3. **Airport Planning Undertaken by a Sponsor.** Unless otherwise specified in the grant agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 30, 32, 33, and 34 in section C apply to planning projects. The terms, conditions, and assurances of the grant agreement shall remain in full force and effect during the life of the project.

C. Sponsor Certification. The sponsor hereby assures and certifies, with respect to this grant that:

1. **General Federal Requirements.** It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following:

Federal Legislation

a. Title 49, U.S.C., subtitle VII, as amended.
b. Davis-Bacon Act - 40 U.S.C. 276(a), et seq.[1]
c. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
d. Hatch Act - 5 U.S.C. 1501, et seq.[2]

Airport Assurances (3/2005)

The airport owners must be an active participant in maintaining compliance. Actions taken to ensure compliance include:

- Annotating areas constructed or repaired with Federal aid.
- Conducting monthly drive-by inspections to detect changes in pavement condition.
- Recording each drive-by inspection and any maintenance performed as a result.
- Keeping complete records of all maintenance activities.
- Keeping records for 5 years.
- Documenting detailed inspection information with a history of recorded pavement deterioration by PCI survey (e.g., this report).

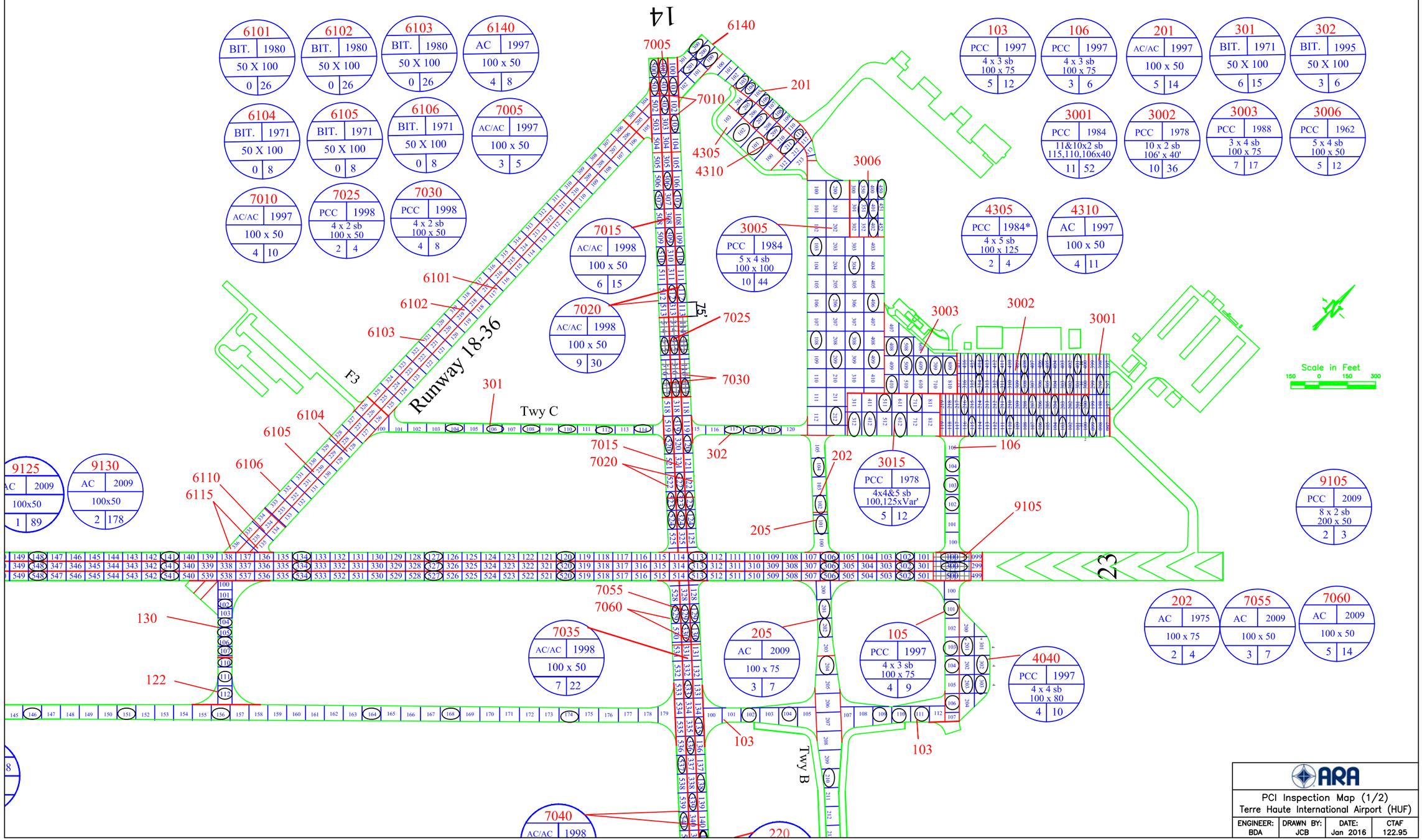
The table on the following pages is available for maintaining a record of drive-by inspections and maintenance repairs.

Table F-1. Monthly Pavement Inspection Log

Date	Inspector	Conditions/Changes	Repairs/Work Order

Date	Inspector	Conditions/Changes	Repairs/Work Order

Date	Inspector	Conditions/Changes	Repairs/Work Order



ARA

PCI Inspection Map (1/2)
Terre Haute International Airport (HUF)

ENGINEER:	DRAWN BY:	DATE:	CTAF
BDA	JCB	Jan 2016	122.95

Twy B

Runway 14-32

B-2

205 | 2009 | AC | 100 x 75 | 3 | 7

220 | 1998 | AC | 50 x 100 | 3 | 5

215 | 1997 | PCC | 4 x 4 sb 100 x 100 | 2 | 4

225 | 1997 | PCC | 4 x 3 sb 100 x 75 | 12 | 73

7035 | 1998 | AC/AC | 100 x 50 | 7 | 22

7040 | 1998 | AC/AC | 100 x 50 | 10 | 44

7045 | 1998 | PCC | 4 x 2 sb 100 x 50 | 6 | 19

7050 | 1998 | PCC | 4 x 2 sb 100 x 50 | 10 | 38

6101 | BIT. | 1980 | 50 X 100 | 0 | 26

6102 | BIT. | 1980 | 50 X 100 | 0 | 26

6103 | BIT. | 1980 | 50 X 100 | 0 | 26

6104 | BIT. | 1971 | 50 X 100 | 0 | 8

6105 | BIT. | 1971 | 50 X 100 | 0 | 8

6106 | BIT. | 1971 | 50 X 100 | 0 | 8

7010 | AC/AC | 1997 | 100 x 50 | 4 | 10

7025 | PCC | 1998 | 4 x 2 sb 100 x 50 | 2 | 4

7030 | PCC | 1998 | 4 x 2 sb 100 x 50 | 4 | 8

F3

Runway 1

122 | PCC | 1988 | 4 x 3 sb 100 x 75 | 3 | 5

127 | PCC | 1988 | 4 x 3 sb 100 x 75 | 2 | 3

130 | AC | 2009 | 50 x 75 | 4 | 9

6110 | AC | 2009 | 100 x 50 | 2 | 3

6115 | AC | 2009 | 100 x 50 | 3 | 6

9125 | AC | 2009 | 100x50 | 1 | 89

9130 | AC | 2009 | 100x50 | 2 | 178

Runway 5-23

A-4

A-3

101 | AC | 2009 | 50x75 | 3 | 5

125 | AC | 2009 | 50 x 75 | 4 | 9

4205 | PCC | 1988 | 6 x 4 sb 150 x 100 | 3 | 6

107 | PCC | 1988 | 4 x 3 sb 100 x 75 | 3 | 6

108 | PCC | 1988 | 4 x 3 sb 100 x 75 | 6 | 18

102 | PCC | 1988 | 4 x 3 sb 100 x 75 | 12 | 54

Twy A

ARA

PCI Inspection Map (2/2)
Terre Haute International Airport (HUF)

ENGINEER:	DRAWN BY:	DATE:	CTAF
BDA	JCB	Jan 2016	122.95