Pavement Condition Report

Lafayette-Purdue University Airport

Project 15805741

Prepared for:
Indiana Department of Transportation
Office of Aviation
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February 2015

Executive Summary

Background

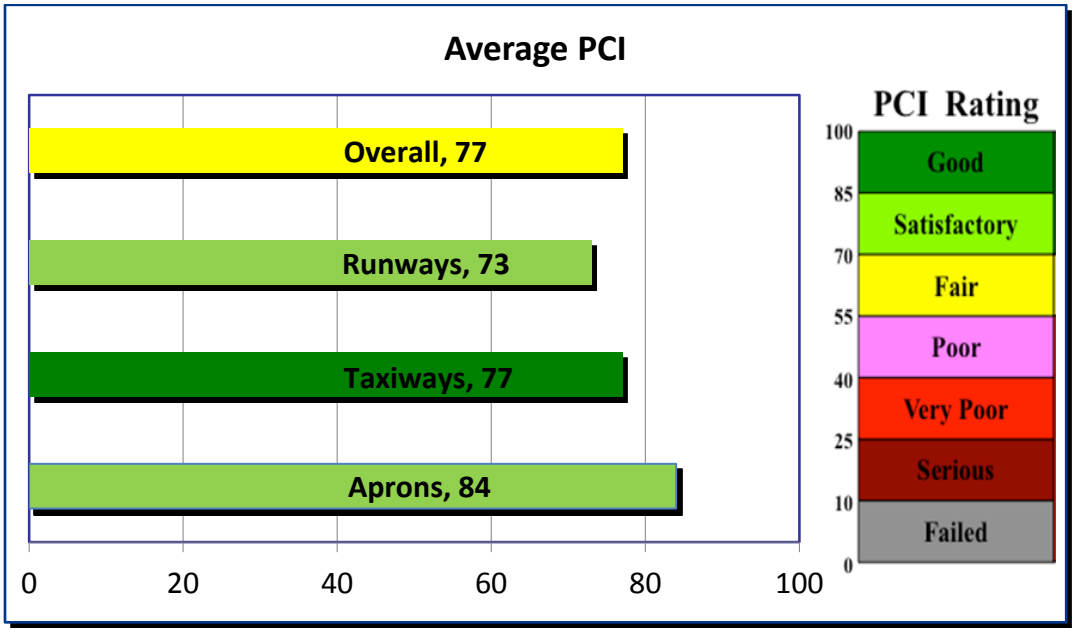
Since 1995, airports have been required to implement a pavement maintenance-management program to receive funding for any project constructed using Federal money. To assist individual airports in meeting this requirement and help improve airport pavement conditions statewide, the Indiana Department of Transportation, Office of Aviation contracted with Applied Research Associates, Inc. to provide pavement evaluation surveys at local airports. This report documents pavement condition at Lafayette-Purdue University Airport in October 2014.

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 77. Runways had an average inspected PCI of 73 and were above the desired MSL of 65. Taxiways had an average inspected PCI of 77, and ramps had an average inspected PCI of 84.



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 2015. The estimated cost for the rehabilitation actions that provide the greatest increase in pavement service life is approximately $860,000 in 2015 dollars. If no action is taken, the overall PCI is projected to drop from 77 to 68 by 2020.

Project Year	Calendar Year	Amount
Year 1	2015	272,777
Year 2	2016	16,780
Year 3	2017	10,080
Year 4	2018	531,360
Year 5	2019	32,752
5-Year Total		**$ 863,749**

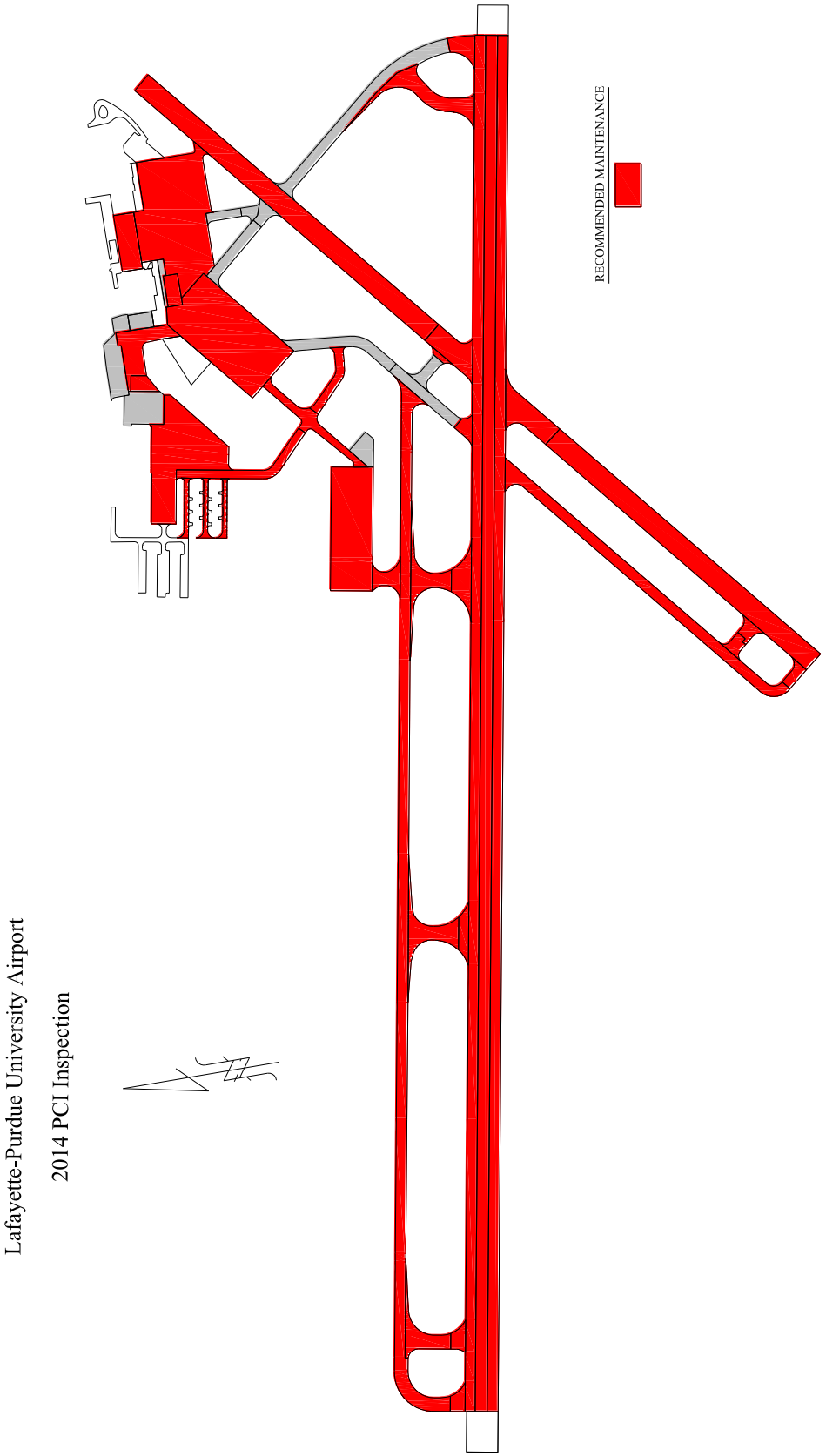
Maintenance

Analysis of potential maintenance projects identified approximately 5,400 square feet of patching needs and approximately 130,000 linear feet of crack sealing and crack repair needs, at an estimated total cost of approximately $310,000.

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	3,240	S.F.	28,107
AC RESTORATIVE CRACK REPAIR	14,377	L.F.	17,828
AC SUSTAINING CRACK REPAIR	18,384	L.F.	15,906
PCC PATCHING	895	S.F.	14,891
PCC RESTORATIVE SEAL REPAIR	94,511	S.F.	212,020
PCC SUSTAINING SEAL REPAIR	2,556	S.F.	2,211
SLAB REPAIR/REPLACEMENT	1,219	S.F.	15,224
Total:			**$306,187**

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


RECOMMENDED MAINTENANCE
Lafayette-Purdue University Airport
2014 PCI Inspection

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GLOSSARY OF ABBREVIATIONS

AC	-	asphalt concrete
ACC	-	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 15805741.

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 D5340-11, *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.

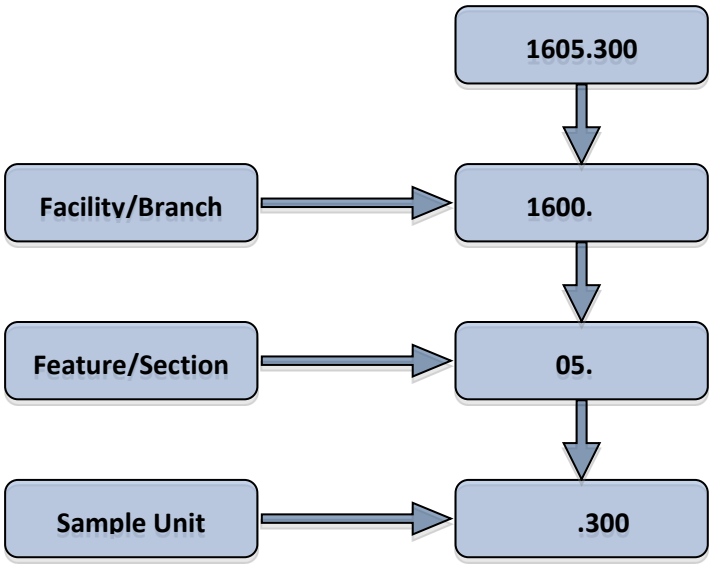


Figure 1-1. Pavement Numbering System

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.

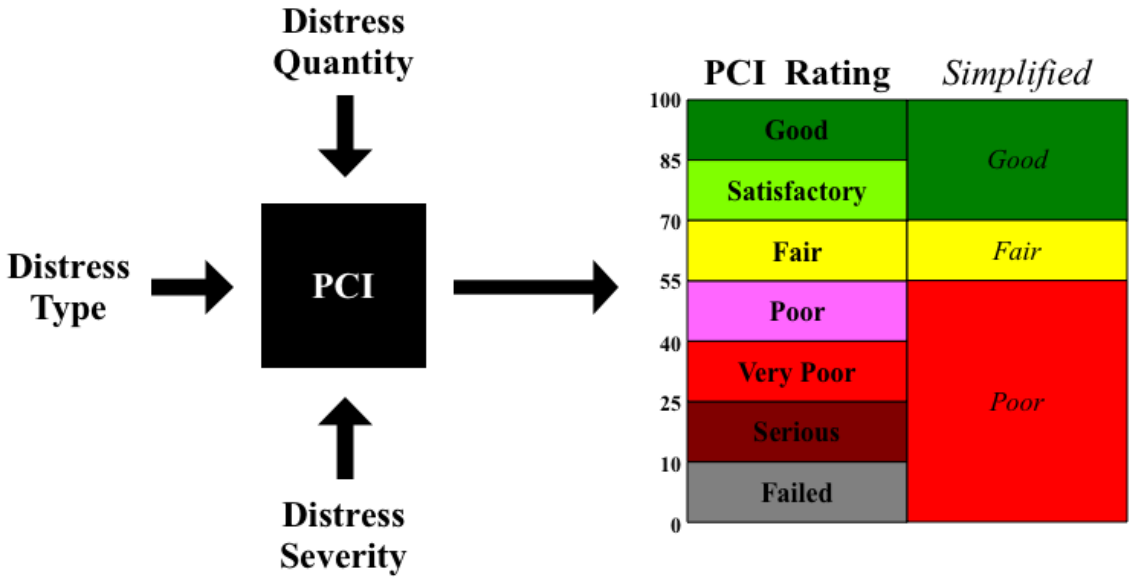


Figure 1-2. PCI Value and Descriptive Rating

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 (ACC), 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.

2. Pavement Condition Evaluation

2.1 Overview

Approximately 3 million square feet of airside pavement is represented herein. Using statistical sampling methods approximately 650,000 ft^2 of AC pavement and 210,000 ft^2 of PCC pavement was surveyed as part of this assessment. The average inspected PCI for all pavements was 77 (Satisfactory). The average inspected PCI for the runways, taxiways, and ramps were as follows: 73 (Satisfactory), 77 (Satisfactory), and 84 (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.	643,310	21%
	71-85	SATISFACTORY: Pavement has scattered low-severity distresses that need only routine maintenance.	1,757,822	58%
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.	546,352	18%
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.	52,400	2%
	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.	0	0%
	11-25	SERIOUS: Pavement has mainly high-severity distresses that cause operational restrictions; immediate repairs are needed.	26,678	1%
	0-10	FAILED: Pavement deterioration has progressed to the point that safe operations are no longer possible; complete reconstruction is required.	0	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.

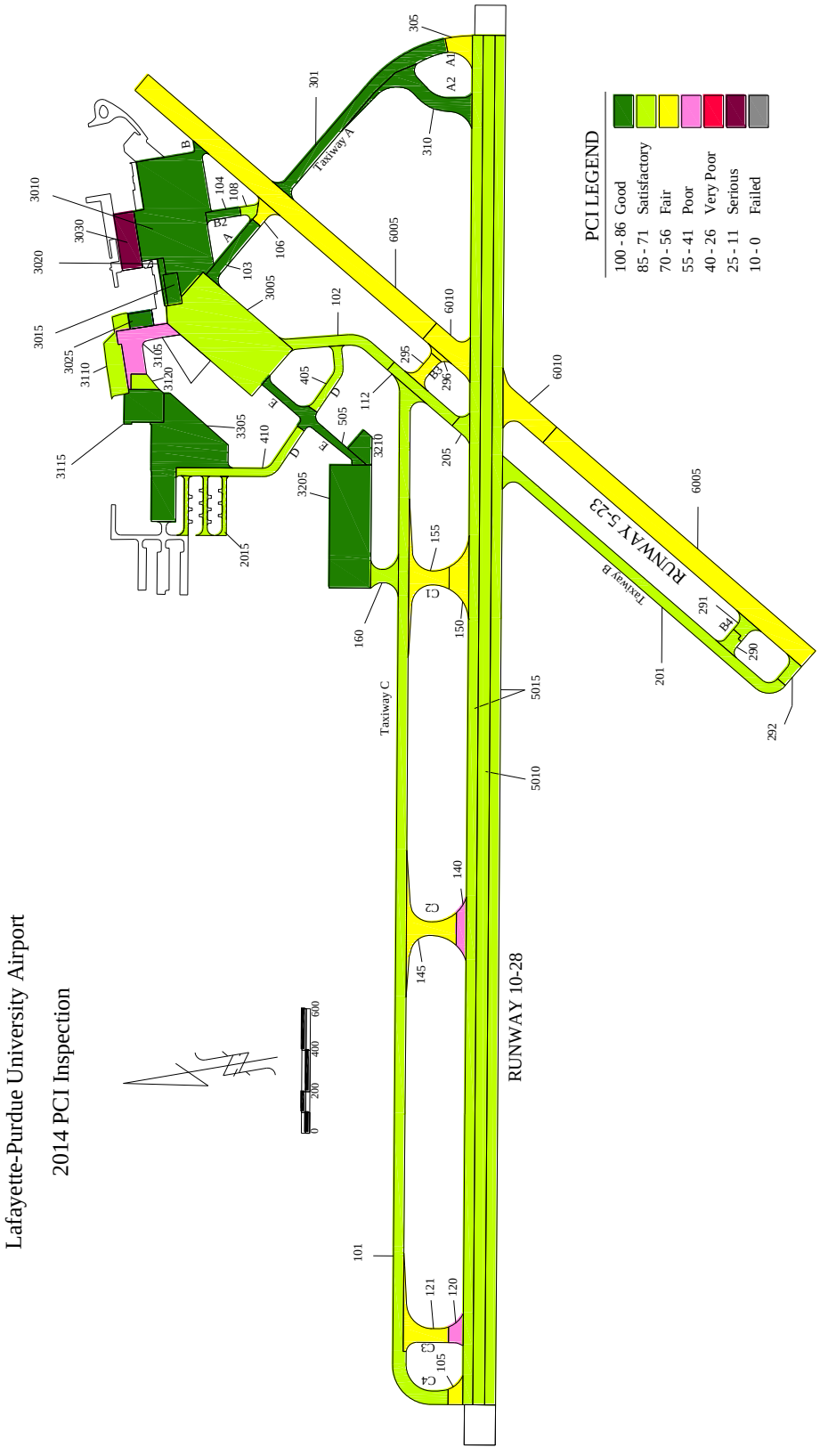


Figure 2-1. Inspected Pavement Condition

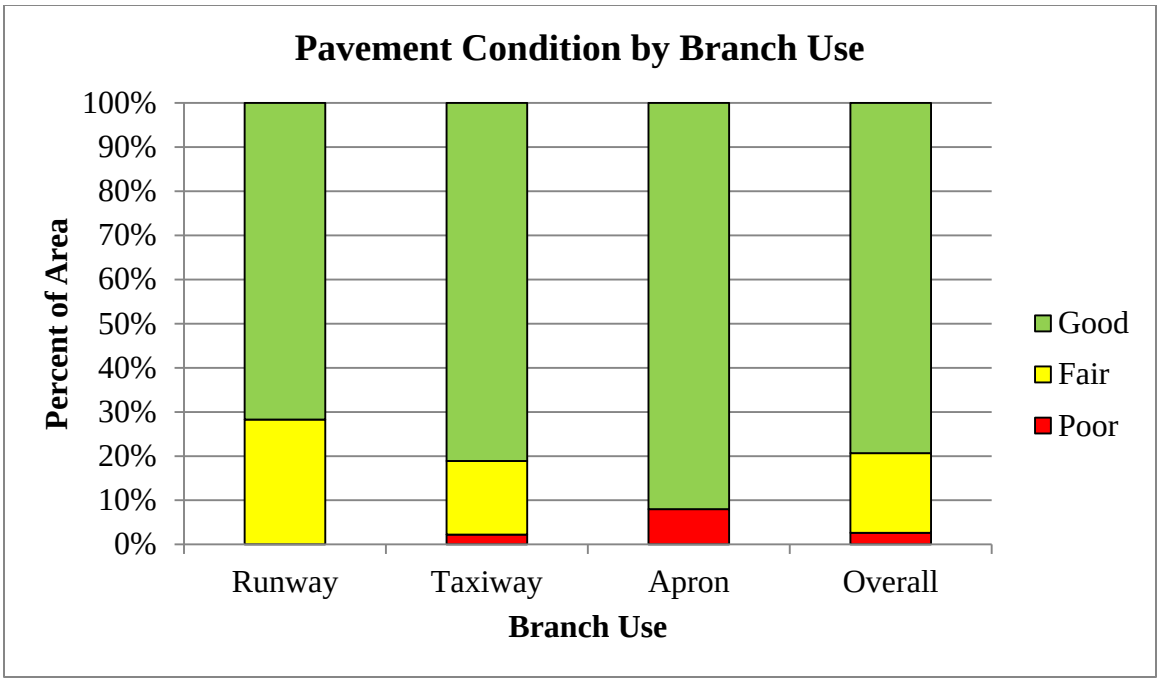


Figure 2-2. Pavement Condition by Branch Use

Figure 2-3. Typical Good PCC Pavement (Feature 3115)

Figure 2-4. Typical Good AC Pavement (Feature 301)

Figure 2-5. Typical Satisfactory AC Pavement (Feature 291)

Figure 2-6. Typical Fair AC Pavement (Feature 6005)

Figure 2-7. Typical Poor AC Pavement (Feature 140)

2.2 Distress Types and Frequency

The inspectors surveyed approximately 650,000 ft^2 of AC pavement. The frequency of each distress type is shown in Table 2-2. The most common distress types were longitudinal and transverse (L&T) cracking, alligator cracking, weathering, and depressions. L&T cracking is an age-related distress. Weathering is a climate-related distress, and alligator cracking is a load related distress. Depressions are most often a materials related distress.

Table 2-2. Distress Frequency in AC Pavement

Distress	Sample Units	% Inspected Sample Units
L&T CRACKING	134	98
WEATHERING	124	91
ALLIGATOR CRACKING	28	20
DEPRESSIONS	13	10
RAVELING	9	7
BLOCK CRACKING	5	4
PATCHING	3	2
OIL SPILLAGE	2	2
SWELL	1	1

The inspectors surveyed approximately 210,000 ft^2 of PCC pavement. The frequency of each distress type is shown in Table 2-3. The most common distress types were joint seal damage and spalling. Spalling can be an indicator of a poor joint sealant.

Table 2-3. Distress Frequency in PCC Pavement

Distress	Sample Units	% Inspected Sample Units	Slabs	% Inspected Slabs
JOINT SEAL DAMAGE	46	74	1,167	74
JOINT SPALLING	19	31	25	2
CORNER SPALLING	19	31	31	2
SETTLEMENT OR FAULTING	7	11	16	1
LONG/TRANS/DIAG CRACKS	4	7	9	1
PATCHING SMALL	2	3	3	0
SHRINKAGE CRACKS	2	3	5	0
PATCHING LARGE	1	2	2	0

2.3 PCI Summary

The branch and section PCI values are shown below, along with the surface type, area, and last year construction occurred.

Table 2-4. PCI Results

Branch ID	Branch PCI	Section	Surface	Area (sf)	Built	2012 PCI	2014 PCI
100	74	101	AC/AC	263,602	2001	77	76
		102	AC	27,300	2002	85	80
		103	AC	18,149	2004	84	90
		104	AC	7,000	2004	80	87
		105	AC/AC	7,425	1996	62	62
		106	AC/AC	7,000	2001	70	64
		108	AC/AC	4,400	2001	74	75
		112	AC/AC	20,577	2001	78	75
		120	AC/AC	7,500	1996	57	53
		121	AC/AC	22,745	2001	72	67
		140	AC/AC	10,500	1996	47	43
		145	AC/AC	30,200	2001	73	69
		150	AC/AC	18,500	1996	72	66
		155	AC/AC	25,300	2001	72	68
		160	AC/AC	12,090	2001	78	76
200	81	201	AC/AC	89,933	2005	85	84
		205	AC/AC	7,600	1996	74	71
		290	AC/AC	6,459	2005	84	84
		291	AC/AC	6,800	2001	73	72
		292	AC	6,524	2001	84	81
		295	AC/AC	9,111	2001	71	70
		296	AC/AC	2,284	2001	63	61
300	85	301	AC	58,939	2005	85	91
		305	AC/AC	12,000	1996	61	56
		310	AC	38,000	2005	79	86
400	72	405	AC/AC	14,193	2002	68	71
		410	AC/AC	28,323	2002	76	73
500	93	505	PCC	25,850	1990	93	93
2000	82	2015	AC	18,660	2001	88	82

Branch ID	Branch PCI	Section	Surface	Area (sf)	Built	2012 PCI	2014 PCI
3000	84	3005	PCC	170,716	1995	87	85
		3010	PCC	188,801	1990	90	90
		3015	PCC	12,750	2004	100	100
		3020	PCC	4,650	2005	100	100
		3025	PCC	8,600	2007	100	100
		3030	AC	26,678	1989	-	15
3100	73	3105	AC	34,400	2001	51	44
		3110	AC	29,424	2007	86	79
		3115	PCC	29,655	2007	99	98
		3120	PCC	7,915	1980	90	85
3200	90	3205	PCC	118,596	1990	91	89
		3210	PCC	11,820	2009	100	100
3300	88	3305	PCC	120,500	1980	89	88
5000	74	5010	AC	377,781	1996	77	73
		5015	AC	665,525	1996	83	75
6000	69	6005	AC/AC	350,500	2001	74	70
		6010	AC/AC	61,287	2001	67	60

2.4 Analysis Commentary

The following pages provide a brief overview of the 2014 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.

Several features have had an increase in PCI ranging from 1 to 7 points due to airport-wide maintenance activities performed since the last PCI inspection.

2.4.1 Runways

The runways consisted of 2 sections of AC and 2 sections of AAC pavement. The runways had a total area of 1,455,093 ft² with an area-weighted average PCI of 73 (Good). Runway 5-23 had an average PCI of 69, and Runway 10-28 had an average PCI of 74. 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	2	1,043,306	72%
70-56	Fair	2	411,787	28%
55-0	Poor	-	-	0%

2.4.2 Taxiways

The taxiways consisted of 6 branches containing 7 sections of AC, 21 section of AAC, and 1 section of PCC. The total area of the taxiways was 809,964 ft². The area-weighted average PCI was 77 (Good). 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	18	654,399	81%
70-56	Fair	9	134,565	17%
55-0	Poor	2	18,000	2%

2.4.3 Aprons

The aprons consisted of 3 sections of AC and 10 sections of PCC pavement. The total area of apron pavements was 764,505 ft², and the area-weighted average PCI was 84 (Good). The distribution of pavement area and sections by PCI range are 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	11	703,427	92%
70-56	Fair	-	-	0%
55-0	Poor	2	61,078	8%

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 failure 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

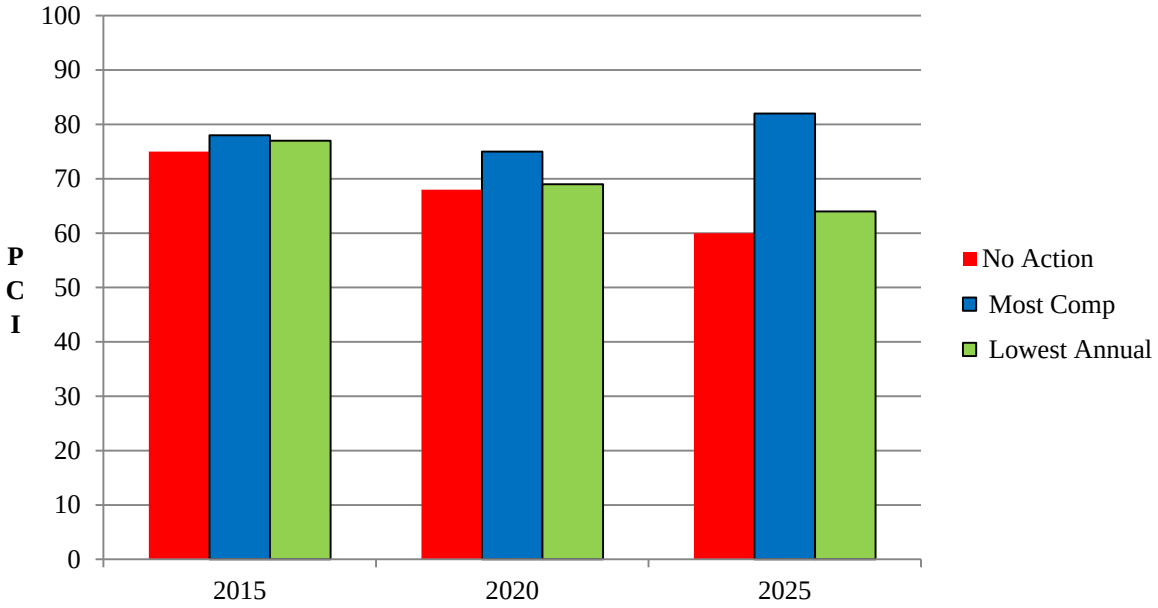


Figure 3-1. Programmed CIP

The longest life CIP scenario for all of the pavement projected to fall below the MSL is projected to cost approximately **$2.7 million** over the next 10 years. The corresponding lowest annual cost scenario is projected to cost approximately **$580,000** 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, $
105	1996	TAXIWAY C	2016	Structural Overlay	16,780
106	2001	TAXIWAY A	2017	Resurfacing	10,080
120	1996	TAXIWAY C-3	2015	Resurfacing	10,800
121	2001	TAXIWAY C-3	2019	Resurfacing	32,752
140	1996	TAXIWAY C-2	2015	Resurfacing	15,120
145	2001	TAXIWAY C-2	2021	Resurfacing	43,488
150	1996	TAXIWAY C-1	2018	Resurfacing	26,640
155	2001	TAXIWAY C-1	2020	Resurfacing	36,432
205	1996	TAXIWAY B	2021	Resurfacing	10,944
291	2001	TAXIWAY B-4	2023	Resurfacing	9,792
295	2001	TAXIWAY B-3	2022	Resurfacing	13,119

Feature	Built	Description	Action Yr	Work Item	Cost, $
296	2001	TAXIWAY B-3	2015	Resurfacing	3,288
305	1996	TAXIWAY A	2015	Resurfacing	17,280
405	2002	TAXIWAY D	2022	Resurfacing	20,437
410	2002	TAXIWAY D	2024	Resurfacing	40,785
3030	1989	RAMP	2015	Structural Overlay	60,292
3105	2001	TAXILANE	2015	Structural Overlay	77,744
3110	2007	TEE HANGARS	2024	Resurfacing	42,370
3120	1980	GA RAMP	2024	Reconstruction	102,103
5010	1996	RUNWAY 10-28 KEEL	2020	Resurfacing	544,004
5015	1996	RUNWAY 10-28 WING	2021	Resurfacing	958,356
6005	2001	RUNWAY 5-23	2018	Resurfacing	504,720
6010	2001	RUNWAY 5-23	2015	Resurfacing	88,253
				Total	**2,685,579**

Table 3-3. Lowest Annual Cost Repair

Feature	Built	Description	Action Yr	Work Item	Cost, $
105	1996	TAXIWAY C	2016	Crack Repair	368
106	2001	TAXIWAY A	2017	Surface Treatment	2,738
120	1996	TAXIWAY C-3	2015	Resurfacing	10,800
121	2001	TAXIWAY C-3	2019	Surface Treatment	9,293
140	1996	TAXIWAY C-2	2015	Resurfacing	15,120
145	2001	TAXIWAY C-2	2021	Surface Treatment	12,685
150	1996	TAXIWAY C-1	2018	Surface Treatment	7,580
155	2001	TAXIWAY C-1	2020	Crack Repair	1,984
205	1996	TAXIWAY B	2021	Surface Treatment	3,009
291	2001	TAXIWAY B-4	2023	Surface Treatment	2,712
295	2001	TAXIWAY B-3	2022	Surface Treatment	3,580
296	2001	TAXIWAY B-3	2015	Surface Treatment	910
305	1996	TAXIWAY A	2015	Resurfacing	17,280
405	2002	TAXIWAY D	2022	Crack Repair	1,050
410	2002	TAXIWAY D	2024	Surface Treatment	11,479
3030	1989	RAMP	2015	Structural Overlay	60,292
3105	2001	TAXILANE	2015	Structural Overlay	77,744
3110	2007	TEE HANGARS	2024	Resurfacing	42,370
3120	1980	GA RAMP	2024	Repair and Overlay	43,611
5010	1996	RUNWAY 10-28 KEEL	2020	Surface Treatment	150,363
5015	1996	RUNWAY 10-28 WING	2021	Crack Repair	41,992
6005	2001	RUNWAY 5-23	2018	Crack Repair	33,651
6010	2001	RUNWAY 5-23	2015	Surface Treatment	25,789
				Total	**576,400**

Table 3-4. All Viable Options

Feature	Built	Description	Action Yr	Work Item	Cost, $
105	1996	TAXIWAY C	2016	Structural Overlay	16,780
105	1996	TAXIWAY C	2016	Surface Treatment	3,019
105	1996	TAXIWAY C	2016	Crack Repair	368
106	2001	TAXIWAY A	2017	Resurfacing	10,080
106	2001	TAXIWAY A	2017	Surface Treatment	2,738
120	1996	TAXIWAY C-3	2015	Resurfacing	10,800
120	1996	TAXIWAY C-3	2015	Surface Treatment	3,299
121	2001	TAXIWAY C-3	2019	Resurfacing	32,752
121	2001	TAXIWAY C-3	2019	Surface Treatment	9,293
121	2001	TAXIWAY C-3	2019	Crack Repair	2,191
140	1996	TAXIWAY C-2	2015	Resurfacing	15,120
140	1996	TAXIWAY C-2	2015	Surface Treatment	5,318
145	2001	TAXIWAY C-2	2021	Resurfacing	43,488
145	2001	TAXIWAY C-2	2021	Surface Treatment	12,685
145	2001	TAXIWAY C-2	2021	Crack Repair	3,065
150	1996	TAXIWAY C-1	2018	Resurfacing	26,640
150	1996	TAXIWAY C-1	2018	Surface Treatment	7,580
150	1996	TAXIWAY C-1	2018	Crack Repair	3,035
155	2001	TAXIWAY C-1	2020	Resurfacing	36,432
155	2001	TAXIWAY C-1	2020	Surface Treatment	10,198
155	2001	TAXIWAY C-1	2020	Crack Repair	1,984
205	1996	TAXIWAY B	2021	Resurfacing	10,944
205	1996	TAXIWAY B	2021	Surface Treatment	3,009
205	1996	TAXIWAY B	2021	Crack Repair	505
291	2001	TAXIWAY B-4	2023	Resurfacing	9,792
291	2001	TAXIWAY B-4	2023	Surface Treatment	2,712
291	2001	TAXIWAY B-4	2023	Crack Repair	711
295	2001	TAXIWAY B-3	2022	Resurfacing	13,119
295	2001	TAXIWAY B-3	2022	Surface Treatment	3,580
296	2001	TAXIWAY B-3	2015	Resurfacing	3,288
296	2001	TAXIWAY B-3	2015	Surface Treatment	910
296	2001	TAXIWAY B-3	2015	Crack Repair	262
305	1996	TAXIWAY A	2015	Resurfacing	17,280
305	1996	TAXIWAY A	2015	Surface Treatment	4,792
405	2002	TAXIWAY D	2022	Resurfacing	20,437
405	2002	TAXIWAY D	2022	Surface Treatment	5,672
405	2002	TAXIWAY D	2022	Crack Repair	1,050
410	2002	TAXIWAY D	2024	Resurfacing	40,785
410	2002	TAXIWAY D	2024	Surface Treatment	11,479
410	2002	TAXIWAY D	2024	Crack Repair	1,969
3030	1989	RAMP	2015	Structural Overlay	60,292
3030	1989	RAMP	2015	Surface Treatment	29,259
3105	2001	TAXILANE	2015	Structural Overlay	77,744
3105	2001	TAXILANE	2015	Surface Treatment	15,008
3110	2007	TEE HANGARS	2024	Resurfacing	42,370
3110	2007	TEE HANGARS	2024	Crack Repair	2,420
3120	1980	GA RAMP	2024	Reconstruction	102,103
3120	1980	GA RAMP	2024	Repair and Overlay	43,611

Feature	Built	Description	Action Yr	Work Item	Cost, $
5010	1996	RUNWAY 10-28 KEEL	2020	Resurfacing	544,004
5010	1996	RUNWAY 10-28 KEEL	2020	Surface Treatment	150,363
5010	1996	RUNWAY 10-28 KEEL	2020	Crack Repair	28,870
5015	1996	RUNWAY 10-28 WING	2021	Resurfacing	958,356
5015	1996	RUNWAY 10-28 WING	2021	Surface Treatment	268,545
5015	1996	RUNWAY 10-28 WING	2021	Crack Repair	41,992
6005	2001	RUNWAY 5-23	2018	Resurfacing	504,720
6005	2001	RUNWAY 5-23	2018	Surface Treatment	139,041
6005	2001	RUNWAY 5-23	2018	Crack Repair	33,651
6010	2001	RUNWAY 5-23	2015	Resurfacing	88,253
6010	2001	RUNWAY 5-23	2015	Surface Treatment	25,789

4. Maintenance Management Program

4.1 General Comments

Most pavement distress is 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, 77 percent of the cracks were rated at low severity and require no maintenance beyond ongoing inspection and spot repair. About 20 percent of the cracks were rated at medium severity and would benefit from sealing and repair. Three percent of the cracks were rated at high severity and may warrant patching to help maintain safe operations.

4.1.2 Other Distress

The inspected asphalt pavement area measured distresses such as rutting, depressions, fatigue cracks, and raveling were recorded as follows: 20 percent at low severity, 76 percent at medium severity, and 4 percent at high severity.

Joint seal damage was recorded in 74 percent of inspected PCC sample units. When identified, joint seal damage was recorded as follows: 11 percent at low severity, 89 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	3,240	S.F.	28,107
AC RESTORATIVE CRACK REPAIR	14,377	L.F.	17,828
AC SUSTAINING CRACK REPAIR	18,384	L.F.	15,906
PCC PATCHING	895	S.F.	14,891
PCC RESTORATIVE SEAL REPAIR	94,511	S.F.	212,020
PCC SUSTAINING SEAL REPAIR	2,556	S.F.	2,211
SLAB REPAIR/REPLACEMENT	1,219	S.F.	15,224
Total:			**$ 306,187**

In the following tables, pavement features shown in grey text are unlikely to be cost-effectively raised above the MSL via maintenance alone, and need only be included in a maintenance plan to provide continued safety or serviceability until their programmed major rehabilitation is implemented.

4.2.1 Patching

Table 4-2. Recommend AC Patching

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
105	AC PATCH	60	62	6	68
120	AC PATCH	28	53	21	74
140	AC PATCH	63	43	19	62
155	AC PATCH	18	68	7	75
305	AC PATCH	63	56	13	69
3030	AC PATCH	1,333	15	13	28
3105	AC PATCH	1,601	44	-	44
6010	AC PATCH	73	60	12	72
	TOTAL:	3,240	S.F.		
EQUIPMENT: SAW, AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 40 TONS ASPHALT PATCH					
EST. MATERIAL COST: $4,039					
EST. CREW HOURS: 92.6					
EST. CREW COST: $24,068					
EST. PROJECT COST: $28,107					

Table 4-3. Recommend PCC Patch

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
505	PCC PATCHING	17	93	-	93
3005	PCC PATCHING	91	85	1	86
3010	PCC PATCHING	276	90	3	93
3115	PCC PATCHING	15	98	-	98
3120	PCC PATCHING	52	85	4	89
3205	PCC PATCHING	210	89	2	91
3305	PCC PATCHING	230	88	2	90
	TOTAL:	895	S.F.		
EQUIPMENT: SAW, AIR COMPRESSOR, JACK HAMMER, MIXER, HAND TOOLS					
EST. MATERIALS: 18 CUBIC YARDS CONCRETE MIX					
EST. MATERIAL COST: $2,353					
EST. CREW HOURS: 89.6					
EST. CREW COST: $12,537					
EST. PROJECT COST: $14,891					

Table 4-4. Recommend PCC Patch

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
3005	SLAB REPAIR/REPLACEMENT	1,219	85	1	86
EQUIPMENT: SAW, AIR COMPRESSOR, JACK HAMMER, MIXER, LOADER, HAND TOOLS					
EST. MATERIALS: 50 CUBIC YARDS CONCRETE MIX					
EST. MATERIAL COST: $4,818					
EST. CREW HOURS: 81.3					
EST. CREW COST: $10,405					
EST. PROJECT COST: $15,224					

4.2.2 Crack Seal

Table 4-5. Recommend AC Sustaining Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
101	AC SUSTAINING CRACK REPAIR	2,262	76	-	N/A
121	AC SUSTAINING CRACK REPAIR	265	67	-	N/A
150	AC SUSTAINING CRACK REPAIR	367	66	-	N/A
155	AC SUSTAINING CRACK REPAIR	239	68	-	N/A
160	AC SUSTAINING CRACK REPAIR	100	76	-	N/A
201	AC SUSTAINING CRACK REPAIR	378	84	-	N/A
205	AC SUSTAINING CRACK REPAIR	61	71	-	N/A
290	AC SUSTAINING CRACK REPAIR	38	84	-	N/A
291	AC SUSTAINING CRACK REPAIR	86	72	-	N/A
292	AC SUSTAINING CRACK REPAIR	48	81	-	N/A
296	AC SUSTAINING CRACK REPAIR	31	61	-	N/A
305	AC SUSTAINING CRACK REPAIR	181	56	-	N/A
310	AC SUSTAINING CRACK REPAIR	162	86	-	N/A
405	AC SUSTAINING CRACK REPAIR	127	71	-	N/A
410	AC SUSTAINING CRACK REPAIR	238	73	-	N/A
2015	AC SUSTAINING CRACK REPAIR	122	82	-	N/A
5010	AC SUSTAINING CRACK REPAIR	3,492	73	-	N/A
5015	AC SUSTAINING CRACK REPAIR	5,079	75	-	N/A
6005	AC SUSTAINING CRACK REPAIR	4,070	70	-	N/A
6010	AC SUSTAINING CRACK REPAIR	1,029	60	-	N/A
	TOTAL:	18,384	L.F.		
EQUIPMENT: AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 3,677 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $3,676					
EST. CREW HOURS: 79.9					
EST. CREW COST: $12,229					
EST. PROJECT COST: $15,906					

Table 4-6. Recommend AC Restorative Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
105	AC RESTORATIVE CRACK REPAIR	297	62	2	64
120	AC RESTORATIVE CRACK REPAIR	563	53	1	54
140	AC RESTORATIVE CRACK REPAIR	1,533	43	2	45
145	AC RESTORATIVE CRACK REPAIR	2,472	69	2	71
3030	AC RESTORATIVE CRACK REPAIR	7,069	15	16	31
3105	AC RESTORATIVE CRACK REPAIR	2,443	44	6	50
	TOTAL:	14,377	L.F.		
EQUIPMENT: AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 2,876 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $2,875					
EST. CREW HOURS: 71.9					
EST. CREW COST: $14,953					
EST. PROJECT COST: $17,828					

Table 4-7. Recommend PCC Sustaining Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
3005	PCC SUSTAINING SEAL REPAIR	2,556	85	-	N/A
EQUIPMENT: AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 511 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $511					
EST. CREW HOURS: 11.1					
EST. CREW COST: $1,700					
EST. PROJECT COST: $2,211					

Table 4-8. Recommend PCC Restorative Crack Repair

Feature	Work Item	Amount	Insp. PCI	Change	Est. PCI
505	PCC RESTORATIVE SEAL REPAIR	6,049	93	3	96
3010	PCC RESTORATIVE SEAL REPAIR	39,153	90	6	96
3205	PCC RESTORATIVE SEAL REPAIR	24,591	89	4	93
3305	PCC RESTORATIVE SEAL REPAIR	24,717	88	3	91
	TOTAL:	94,511	L.F.		
EQUIPMENT: ROUTER, SAND BLASTER, AIR COMPRESSOR, HEATING KETTLE, HAND TOOLS					
EST. MATERIALS: 18,902 POUNDS ASTM D3405 SEALANT OR EQUIVALENT					
EST. MATERIAL COST: $48,200					
EST. CREW HOURS: 787.6					
EST. CREW COST: $163,820					
EST. PROJECT COST: $212,020					

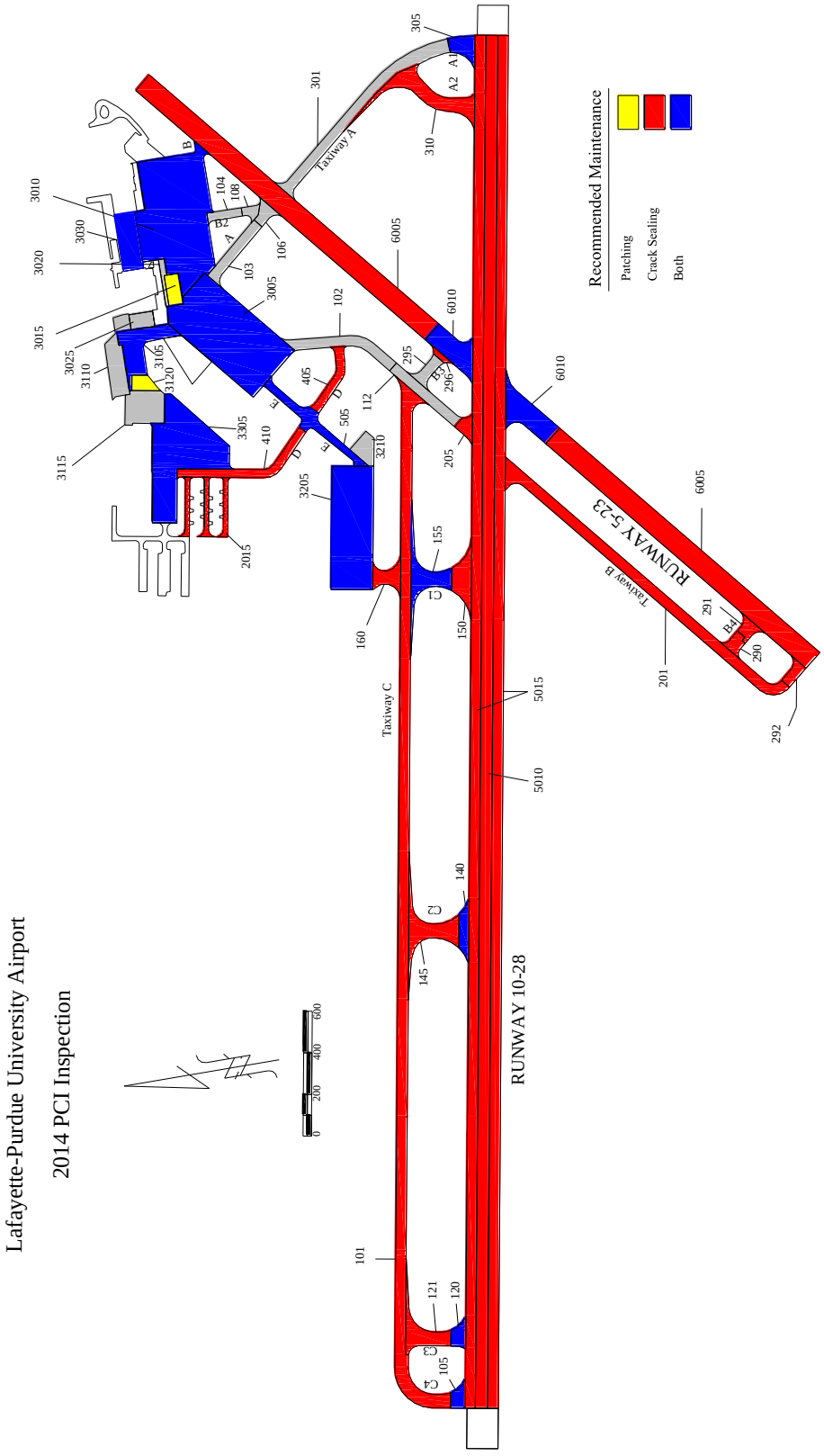


Figure 4-1. Recommended Maintenance

4.3 Pavement Deterioration

Before attempting 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 prevent 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, and 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 a liquid state. In PCC pavement, interconnected, well-distributed air voids are required to allow for expansion of moisture with 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.

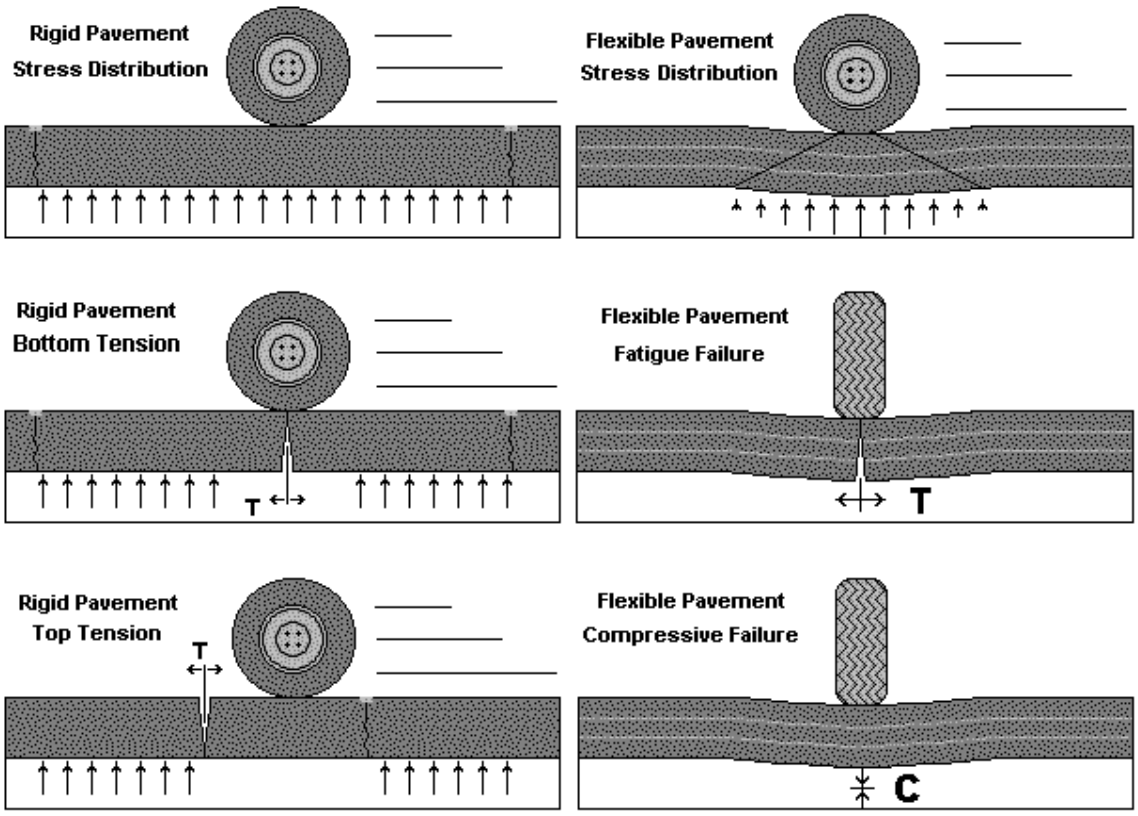
However, if the air voids become too high, air and water can penetrate the pavement, reducing both durability and flexibility. Air infiltration will accelerate oxidization of the binder, while water penetration will increase the moisture susceptibility of the mix (i.e., stripping of the asphalt cement 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 4-9. 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 4-9. Examples of various maintenance techniques are provided in appendix B.

Table 4-9. 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 4-10. 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.

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

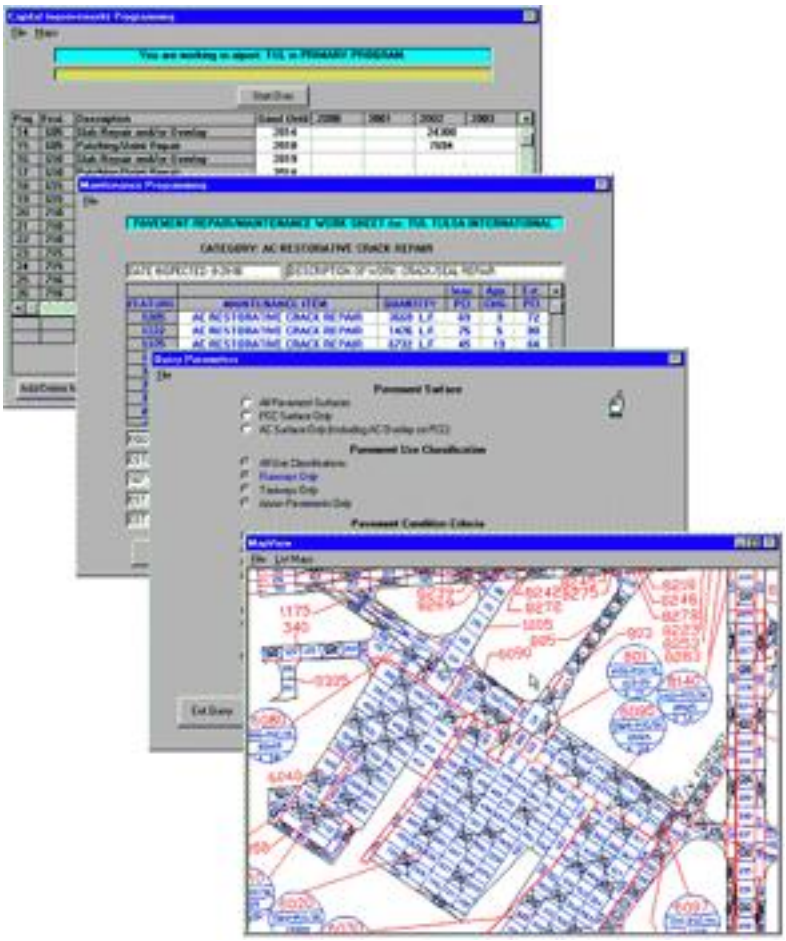
AIRPAV calculates and develops maintenance work orders organized by type of work. Maintenance work orders can be printed and issued directly to maintenance crews.

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.

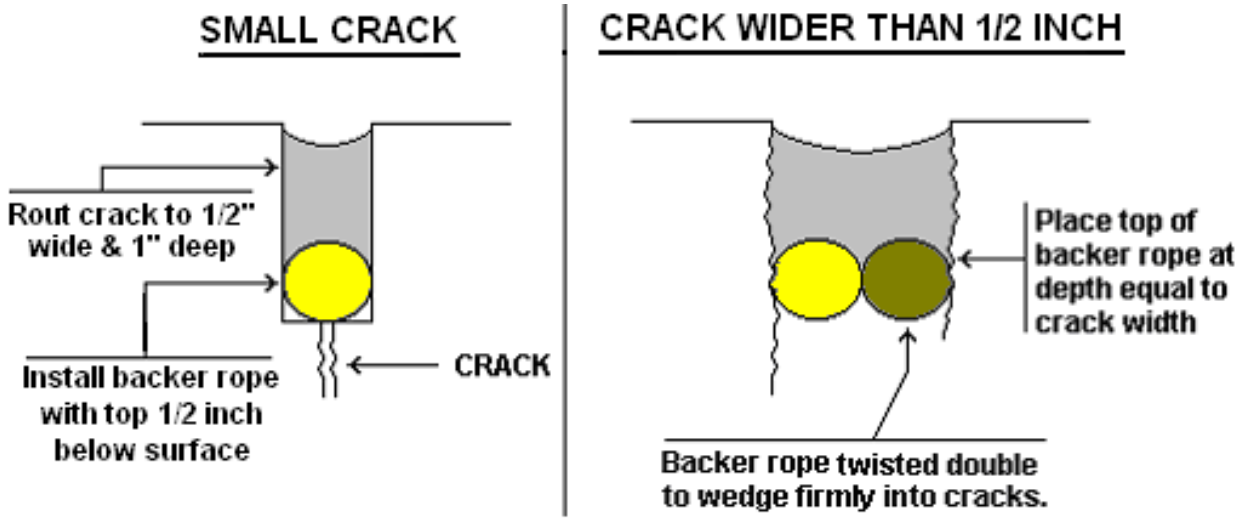
Global Information System (GIS) Integration

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

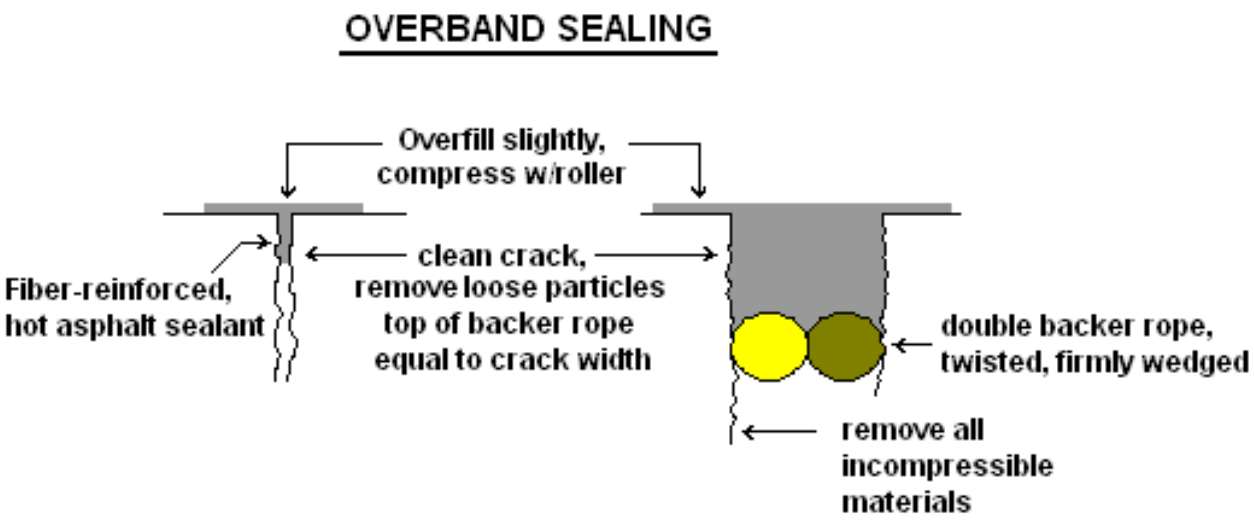
An alternate crack sealing technique using the procedures outlined below.

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.

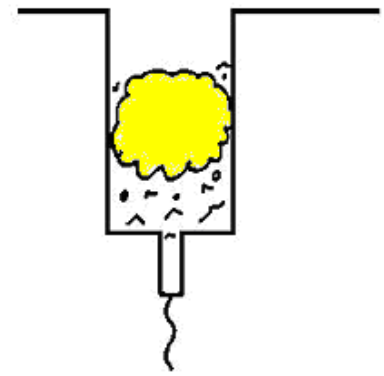
Application

- 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.

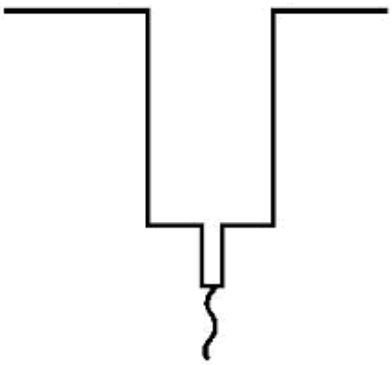


Joint Repair (portland cement)

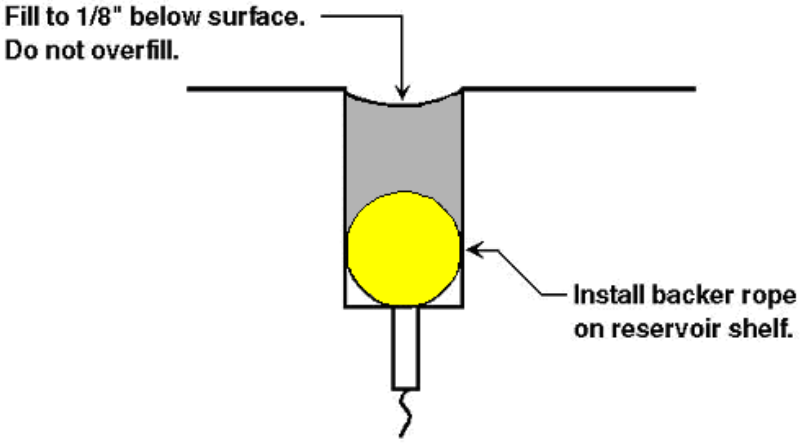
- Rout a reservoir for the sealant ½ inch wide and 1 inch deep.
- Cracks wider than ½ inch should have reservoirs ¼ inch wider than the crack. Reservoir height above backer rope should be less than reservoir width, or as recommended by manufacturer.
- Routed cracks should be cleaned to expose fresh, 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.

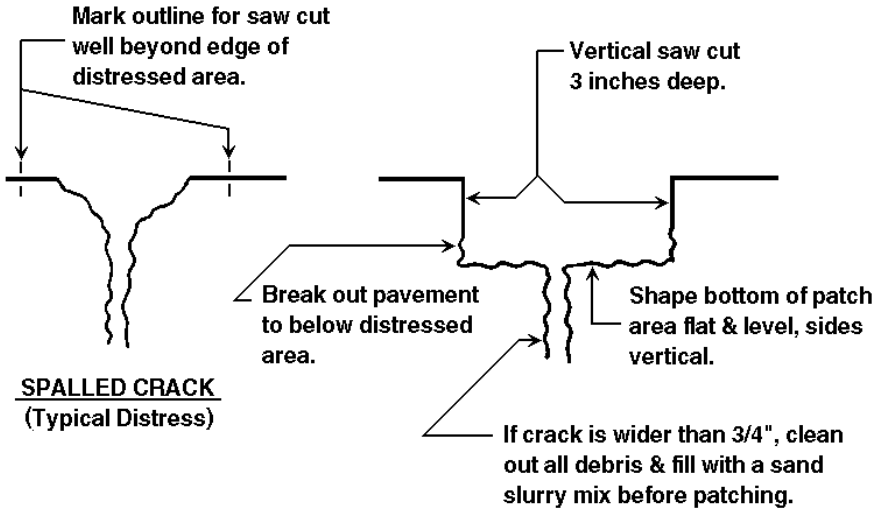


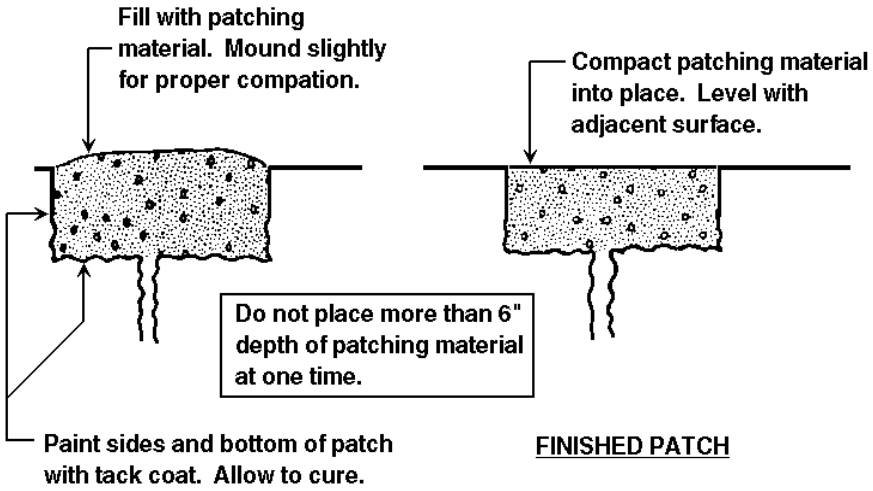
Clean joints exposing fresh, clean concrete and stone. Retain existing resevoir shape.



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.

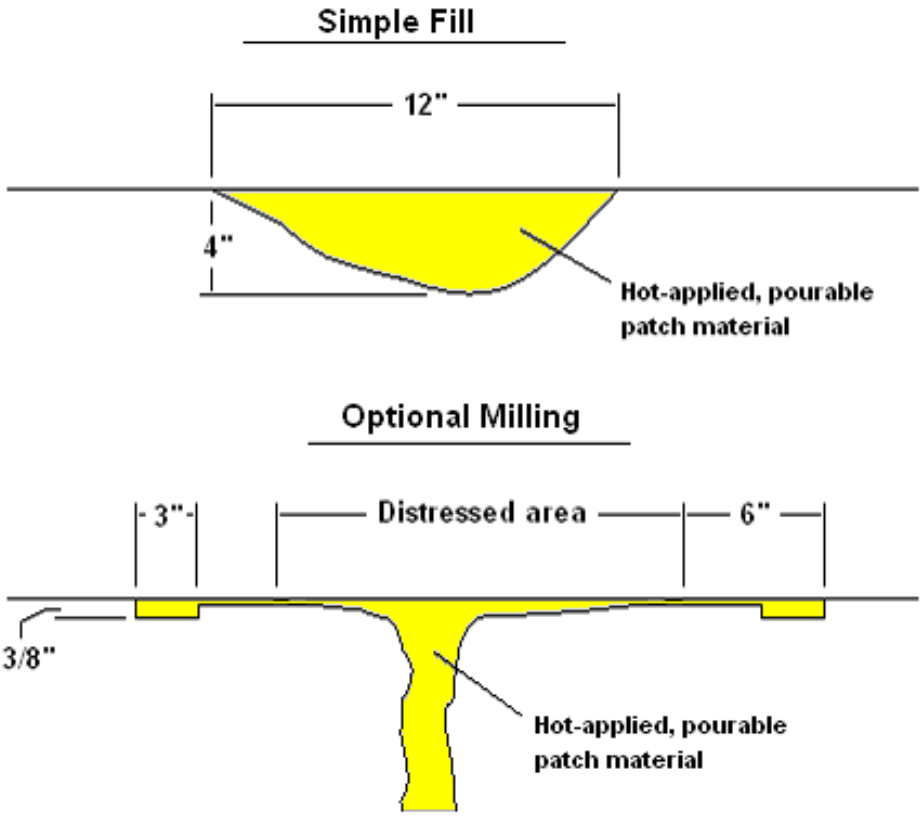




Patching (pourable materials)

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.

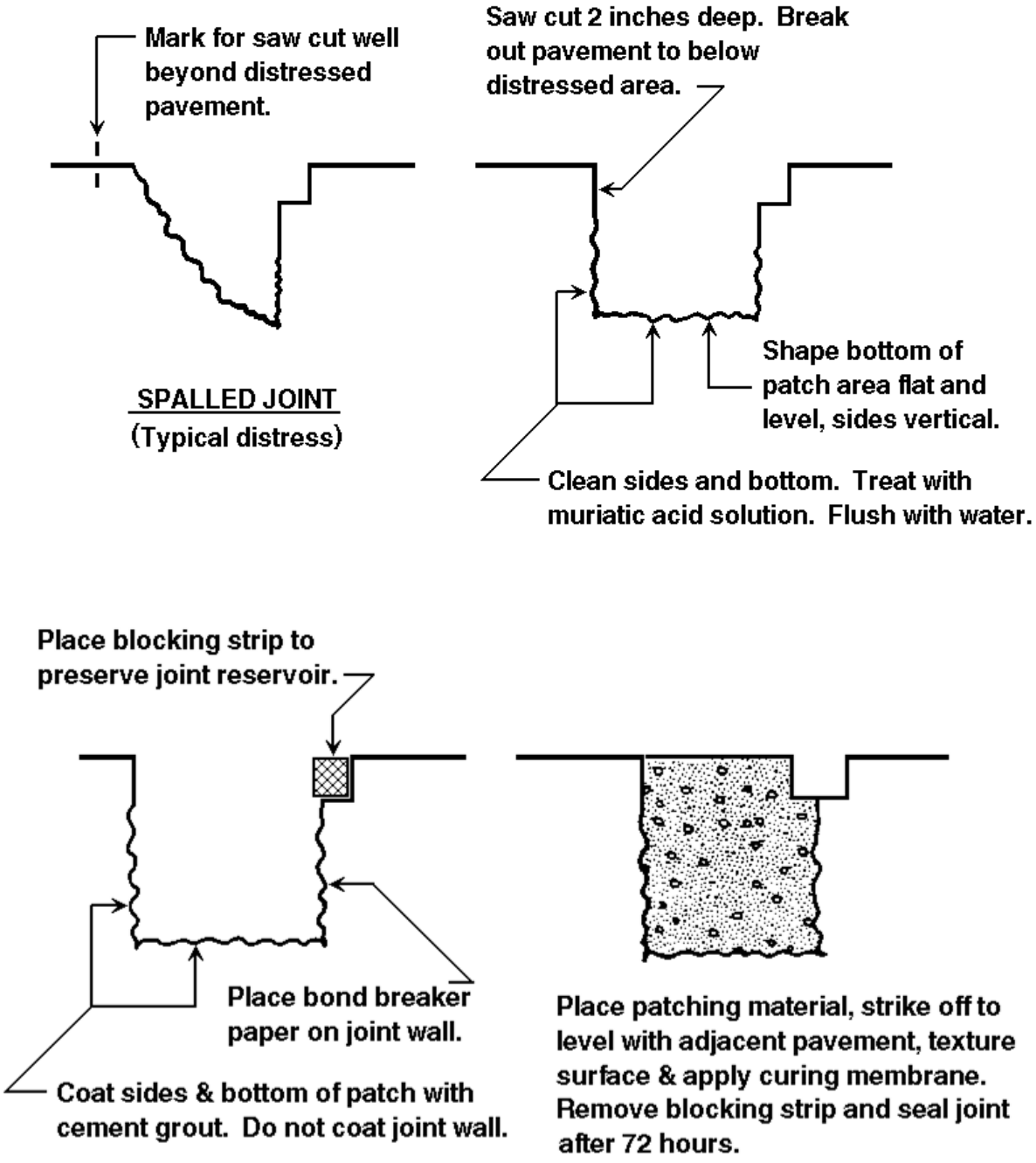
- Examine and mark the patch outline. Boundaries should extend to sound pavement.
- Apply patch material to clean, dry surfaces.
- A heating lance to preheat or dry existing pavement is recommended in cold or wet conditions.
- Patch material should be poured into the area to be repaired and leveled as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



Patching (PCC)

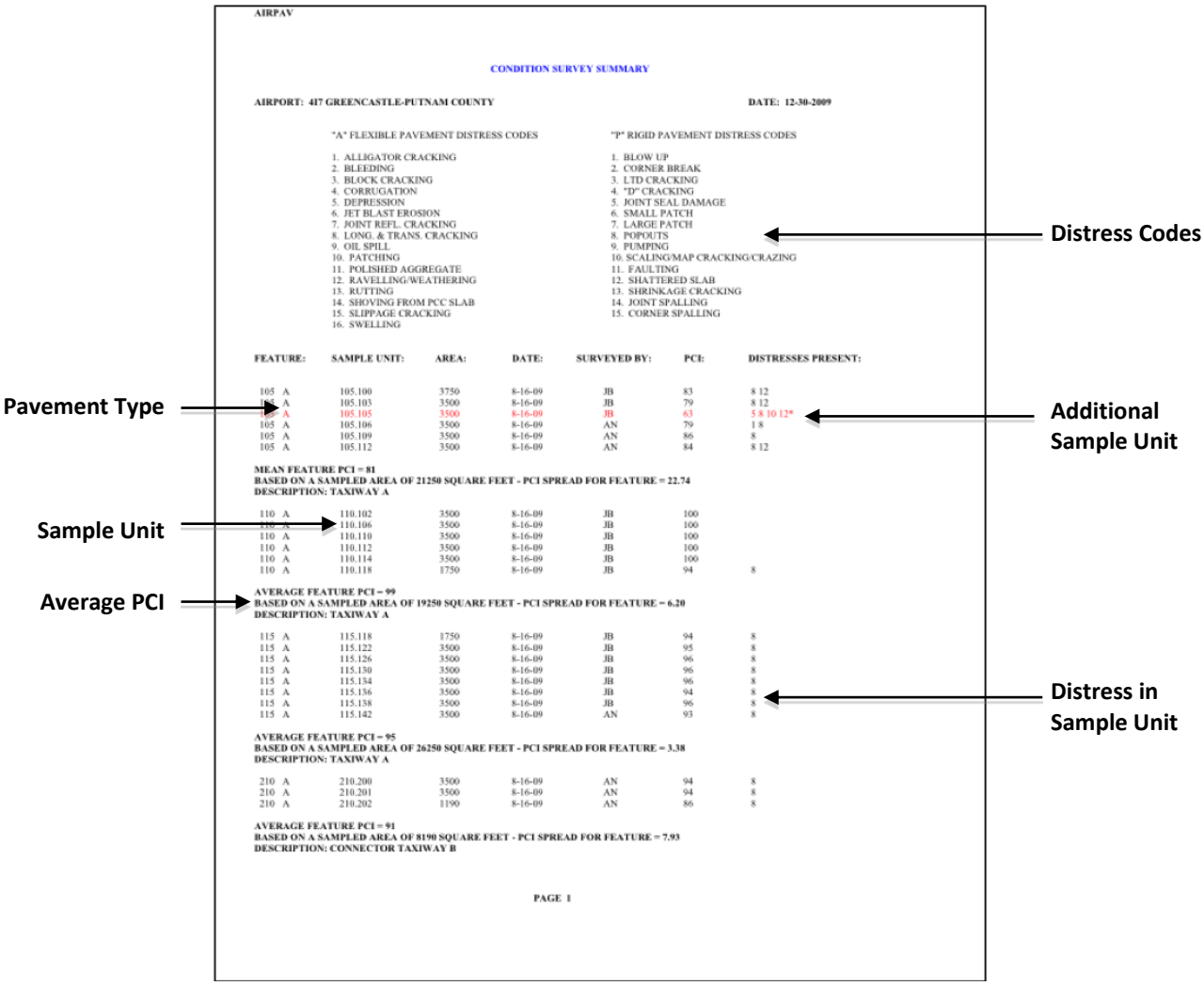
The technique outlined here simulates a thin bonded PCC overlay. This procedure has been proven effective in service throughout the country.

- 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.

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.



AIRPAV

CONDITION SURVEY SUMMARY

AIRPORT: 417 GREENCASTLE-PUTNAM COUNTY DATE: 12-30-2009

"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/WEATHERING
13. RUTTING
14. SHOVING FROM PCC SLAB
15. SLIPPAGE CRACKING
16. SWELLING

"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

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
105 A	105.100	3750	8-16-09	JB	83	8 12
105 A	105.103	3500	8-16-09	JB	79	8 12
105 A	105.105	3500	8-16-09	JB	63	5 8 10 12*
105 A	105.106	3500	8-16-09	AN	79	1 8
105 A	105.109	3500	8-16-09	AN	86	8
105 A	105.112	3500	8-16-09	AN	84	8 12

MEAN FEATURE PCI = 81
BASED ON A SAMPLED AREA OF 21250 SQUARE FEET - PCI SPREAD FOR FEATURE = 22.74
DESCRIPTION: TAXIWAY A

110 A	110.102	3500	8-16-09	JB	100	
110 A	110.106	3500	8-16-09	JB	100	
110 A	110.110	3500	8-16-09	JB	100	
110 A	110.112	3500	8-16-09	JB	100	
110 A	110.114	3500	8-16-09	JB	100	
110 A	110.118	1750	8-16-09	JB	94	8

AVERAGE FEATURE PCI = 99
BASED ON A SAMPLED AREA OF 19250 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.20
DESCRIPTION: TAXIWAY A

115 A	115.118	1750	8-16-09	JB	94	8
115 A	115.122	3500	8-16-09	JB	95	8
115 A	115.126	3500	8-16-09	JB	96	8
115 A	115.130	3500	8-16-09	JB	96	8
115 A	115.134	3500	8-16-09	JB	96	8
115 A	115.136	3500	8-16-09	JB	94	8
115 A	115.138	3500	8-16-09	JB	96	8
115 A	115.142	3500	8-16-09	AN	93	8

AVERAGE FEATURE PCI = 95
BASED ON A SAMPLED AREA OF 26250 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.38
DESCRIPTION: TAXIWAY A

210 A	210.200	3500	8-16-09	AN	94	8
210 A	210.201	3500	8-16-09	AN	94	8
210 A	210.202	1190	8-16-09	AN	86	8

AVERAGE FEATURE PCI = 91
BASED ON A SAMPLED AREA OF 8190 SQUARE FEET - PCI SPREAD FOR FEATURE = 7.93
DESCRIPTION: CONNECTOR TAXIWAY B

PAGE 1

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: LAF LAFAYETTE/PURDUE UNIVERSITY **DATE: 01-10-2015**

"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	5000	10-27-14	BA	73	8 17
101	A	101.103	6500	10-27-14	MP	72	8 17
101	A	101.106	5000	10-27-14	MP	71	8 17
101	A	101.111	5000	10-27-14	MP	78	8 17
101	A	101.116	5000	10-27-14	BA	78	8 17
101	A	101.121	5000	10-27-14	BA	81	8 17
101	A	101.125	5000	10-27-14	BA	76	8 17
101	A	101.130	5000	10-27-14	MP	79	8 17
101	A	101.135	5000	10-27-14	MP	72	1 8 17
101	A	101.140	5000	10-27-14	BA	67	1 8 17
101	A	101.145	5000	10-27-14	MP	78	8 17
101	A	101.149	5000	10-27-14	BA	85	8 17

AVERAGE FEATURE PCI = 76
BASED ON A SAMPLED AREA OF 61500 SQUARE FEET - PCI SPREAD FOR FEATURE = 18.35

102	A	102.159	5000	10-27-14	BA	79	8 17
102	A	102.160	5000	10-27-14	BA	79	8 17
102	A	102.161	5000	10-27-14	BA	82	8 17

AVERAGE FEATURE PCI = 80
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.25

103	A	103.100	5000	10-27-14	MSP	90	8 17
103	A	103.101	5000	10-27-14	MSP	90	8 17

AVERAGE FEATURE PCI = 90
BASED ON A SAMPLED AREA OF 10000 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.11

104	A	104.100	4000	10-27-14	BA	83	5 8 17
104	A	104.101	3000	10-27-14	BA	90	8 17

AVERAGE FEATURE PCI = 87
BASED ON A SAMPLED AREA OF 7000 SQUARE FEET - PCI SPREAD FOR FEATURE = 7.11

105	A	105.100	3750	10-27-14	BA	52	1 8 10
105	A	105.199	3675	10-27-14	BA	72	1 8 17

AVERAGE FEATURE PCI = 62
BASED ON A SAMPLED AREA OF 7425 SQUARE FEET - PCI SPREAD FOR FEATURE = 20.58

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
106 A	106.103	2500	10-27-14	MSP	74	8 17
106 A	106.104	2850	10-27-14	MSP	54	1 8 17

AVERAGE FEATURE PCI = 64
BASED ON A SAMPLED AREA OF 5350 SQUARE FEET - PCI SPREAD FOR FEATURE = 20.31

108 A	108.101	1400	10-27-14	MSP	71	8 17
108 A	108.102	3000	10-27-14	MSP	78	8 17

AVERAGE FEATURE PCI = 75
BASED ON A SAMPLED AREA OF 4400 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.43

112 A	112.153	5500	10-27-14	BA	74	8 17
112 A	112.154	5000	10-27-14	MSP	77	8 17
112 A	112.156	4750	10-27-14	MSP	74	8 17

AVERAGE FEATURE PCI = 75
BASED ON A SAMPLED AREA OF 15250 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.61

120 A	120.100	7500	10-27-14	MSP	53	1 8 10 17

AVERAGE FEATURE PCI = 53
BASED ON A SAMPLED AREA OF 7500 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

121 A	121.101	6600	10-27-14	BA	69	1 8 17
121 A	121.102	6600	10-27-14	BA	65	5 8 17

AVERAGE FEATURE PCI = 67
BASED ON A SAMPLED AREA OF 13200 SQUARE FEET - PCI SPREAD FOR FEATURE = 4.12

140 A	140.100	3250	10-27-14	BA	32	1 3 8 12 17
140 A	140.300	3025	10-27-14	MSP	54	8 12 17

AVERAGE FEATURE PCI = 43
BASED ON A SAMPLED AREA OF 6275 SQUARE FEET - PCI SPREAD FOR FEATURE = 21.79

145 A	145.100	3300	10-27-14	BA	56	8 12 17
145 A	145.101	6600	10-27-14	BA	76	8 12 17
145 A	145.102	6600	10-27-14	MSP	76	8 17

AVERAGE FEATURE PCI = 69
BASED ON A SAMPLED AREA OF 16500 SQUARE FEET - PCI SPREAD FOR FEATURE = 20.34

150 A	150.100	6300	10-27-14	BA	65	8 17
150 A	150.300	5300	10-27-14	BA	67	8 17

AVERAGE FEATURE PCI = 66
BASED ON A SAMPLED AREA OF 11600 SQUARE FEET - PCI SPREAD FOR FEATURE = 1.83

155 A	155.101	6500	10-27-14	MSP	68	1 8 17
155 A	155.102	6800	10-27-14	MSP	68	1 8 17

AVERAGE FEATURE PCI = 68
BASED ON A SAMPLED AREA OF 13300 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.33

160 A	160.100	5400	10-27-14	MSP	79	5 8 17
160 A	160.101	4900	10-27-14	BA	72	5 8 17

AVERAGE FEATURE PCI = 76
BASED ON A SAMPLED AREA OF 10300 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.91

201 A	201.103	5000	10-27-14	MSP	85	8 17
201 A	201.106	5000	10-27-14	MSP	85	8 17
201 A	201.109	5000	10-27-14	MSP	84	8 17
201 A	201.112	5000	10-27-14	MSP	83	8 17
201 A	201.114	5000	10-27-14	BA	84	8 17
201 A	201.115	5000	10-27-14	BA	86	8 17

AVERAGE FEATURE PCI = 84
BASED ON A SAMPLED AREA OF 30000 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.11

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
205 A	205.152	7600	10-27-14	BA	71	8 17

AVERAGE FEATURE PCI = 71
BASED ON A SAMPLED AREA OF 7600 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

290 A	290.101	6175	10-28-14	MSP	84	8

AVERAGE FEATURE PCI = 84
BASED ON A SAMPLED AREA OF 6175 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

291 A	291.100	6800	10-28-14	BA	72	8 17

AVERAGE FEATURE PCI = 72
BASED ON A SAMPLED AREA OF 6800 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

292 A	292.100	5525	10-28-14	MSP	81	8 17

AVERAGE FEATURE PCI = 81
BASED ON A SAMPLED AREA OF 5525 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

295 A	295.100	3750	10-28-14	MSP	68	8 12 17
295 A	295.101	4600	10-28-14	MSP	72	8 17

AVERAGE FEATURE PCI = 70
BASED ON A SAMPLED AREA OF 8350 SQUARE FEET - PCI SPREAD FOR FEATURE = 3.57

296 A	296.100	2200	10-28-14	MSP	61	5 8 12 17

AVERAGE FEATURE PCI = 61
BASED ON A SAMPLED AREA OF 2200 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

301 A	301.106	5500	10-28-14	MSP	90	8 17
301 A	301.107	5500	10-28-14	MSP	90	8 17
301 A	301.109	6100	10-28-14	MSP	89	8
301 A	301.110	6200	10-28-14	MSP	89	8
301 A	301.113	6500	10-28-14	MSP	95	8

AVERAGE FEATURE PCI = 91
BASED ON A SAMPLED AREA OF 29800 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.36

305 A	305.114	1750	10-28-14	BA	49	1 5 8 17
305 A	305.115	7000	10-28-14	BA	63	1 8 17

AVERAGE FEATURE PCI = 56
BASED ON A SAMPLED AREA OF 8750 SQUARE FEET - PCI SPREAD FOR FEATURE = 14.28

310 A	310.118	6500	10-29-14	MSP	87	8 17
310 A	310.119	6500	10-29-14	MSP	88	8 9
310 A	310.120	6500	10-29-14	MSP	83	8 17

AVERAGE FEATURE PCI = 86
BASED ON A SAMPLED AREA OF 19500 SQUARE FEET - PCI SPREAD FOR FEATURE = 4.92

405 A	405.101	4000	10-29-14	MSP	70	8 17
405 A	405.102	4000	10-29-14	MSP	72	8 17

AVERAGE FEATURE PCI = 71
BASED ON A SAMPLED AREA OF 8000 SQUARE FEET - PCI SPREAD FOR FEATURE = 1.55

410 A	410.105	4000	10-28-14	MSP	69	8 17
410 A	410.107	4000	10-28-14	MSP	75	8 17
410 A	410.109	4000	10-28-14	MSP	73	8 17
410 A	410.111	2800	10-28-14	MSP	74	8 17

AVERAGE FEATURE PCI = 73
BASED ON A SAMPLED AREA OF 14800 SQUARE FEET - PCI SPREAD FOR FEATURE = 6.10

505 P	505.101	1312	10-28-14	BA	94	5 15
505 P	505.102	1312	10-28-14	BA	93	5

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
505 P	505.104	1312	10-28-14	BA	93	5
505 P	505.106	1312	10-28-14	BA	93	5
505 P	505.108	1312	10-28-14	BA	93	5
505 P	505.111	1750	10-28-14	BA	93	5
505 P	505.114	1925	10-28-14	BA	89	5 14

AVERAGE FEATURE PCI = 93
BASED ON A SAMPLED AREA OF 10235 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.08

2015 A	2015.100	2000	10-28-14	MSP	81	8 17
2015 A	2015.101	2000	10-28-14	MSP	85	8 17
2015 A	2015.201	2000	10-28-14	MSP	79	8 17
2015 A	2015.301	2000	10-28-14	MSP	81	8 17

AVERAGE FEATURE PCI = 82
BASED ON A SAMPLED AREA OF 8000 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.92

3005 P	3005.100	8000	10-28-14	MSP	97	14
3005 P	3005.103	8000	10-28-14	MSP	65	3 14
3005 P	3005.105	8000	10-28-14	BA	100	
3005 P	3005.201	8000	10-28-14	MSP	94	3 14
3005 P	3005.204	8000	10-28-14	BA	86	3 13 14
3005 P	3005.302	8000	10-28-14	MSP	63	3 11
3005 P	3005.305	8000	10-28-14	BA	92	5 7

AVERAGE FEATURE PCI = 85
BASED ON A SAMPLED AREA OF 56000 SQUARE FEET - PCI SPREAD FOR FEATURE = 37.49

3010 P	3010.200	3600	10-28-14	MSP	87	5 14
3010 P	3010.203	3375	10-28-14	MSP	83	5 14 15
3010 P	3010.301	3000	10-28-14	MSP	93	5
3010 P	3010.304	2800	10-28-14	MSP	80	5 14 15
3010 P	3010.402	3375	10-28-14	MSP	93	5
3010 P	3010.405	3825	10-28-14	MSP	93	5
3010 P	3010.500	3375	10-28-14	MSP	93	5
3010 P	3010.503	3375	10-28-14	MSP	93	5
3010 P	3010.506	3375	10-28-14	MSP	93	5
3010 P	3010.601	3375	10-28-14	MSP	93	5
3010 P	3010.604	3375	10-28-14	MSP	89	5 14
3010 P	3010.606	3375	10-28-14	MSP	88	5 15

AVERAGE FEATURE PCI = 90
BASED ON A SAMPLED AREA OF 40225 SQUARE FEET - PCI SPREAD FOR FEATURE = 13.43

3015 P	3015.307	12750	10-28-14	BA	100	

AVERAGE FEATURE PCI = 100
BASED ON A SAMPLED AREA OF 12750 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

3020 P	3020.206	4650	10-28-14	BA	100	

AVERAGE FEATURE PCI = 100
BASED ON A SAMPLED AREA OF 4650 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

3025 P	3025.100	8600	10-28-14	BA	100	6

AVERAGE FEATURE PCI = 100
BASED ON A SAMPLED AREA OF 8600 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

3030 A	3030.101	5000	10-28-14	MSP	11	1 3 12
3030 A	3030.102	5000	10-28-14	MSP	14	1 3 12
3030 A	3030.103	5000	10-28-14	MSP	22	1 3 5 9 12 16

AVERAGE FEATURE PCI = 15
BASED ON A SAMPLED AREA OF 15000 SQUARE FEET - PCI SPREAD FOR FEATURE = 10.55

3105 A	3105.101	3250	10-28-14	MSP	50	1 8 17
3105 A	3105.102	3250	10-28-14	MSP	34	1 8 17
3105 A	3105.103	3250	10-28-14	MSP	27	1 5 8 17

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
3105 A	3105.106	5000	10-28-14	MSP	67	8 17

AVERAGE FEATURE PCI = 44
BASED ON A SAMPLED AREA OF 14750 SQUARE FEET - PCI SPREAD FOR FEATURE = 39.92

3110 A	3110.205	2500	10-28-14	MSP	78	8
3110 A	3110.305	2500	10-28-14	MSP	82	8
3110 A	3110.405	2500	10-28-14	MSP	76	8
3110 A	3110.505	2500	10-28-14	MSP	81	8

AVERAGE FEATURE PCI = 79
BASED ON A SAMPLED AREA OF 10000 SQUARE FEET - PCI SPREAD FOR FEATURE = 5.37

3115 P	3115.100	2850	10-28-14	BA	100	
3115 P	3115.102	2850	10-28-14	BA	91	15
3115 P	3115.201	2850	10-28-14	BA	100	
3115 P	3115.203	2850	10-28-14	BA	100	

AVERAGE FEATURE PCI = 98
BASED ON A SAMPLED AREA OF 11400 SQUARE FEET - PCI SPREAD FOR FEATURE = 8.62

3120 P	3120.100	1875	10-28-14	MSP	79	5 11 14
3120 P	3120.101	1875	10-28-14	MSP	88	11 14 15
3120 P	3120.102	1875	10-28-14	MSP	86	5 11 14

AVERAGE FEATURE PCI = 85
BASED ON A SAMPLED AREA OF 5625 SQUARE FEET - PCI SPREAD FOR FEATURE = 8.58

3205 P	3205.102	1875	10-28-14	MSP	87	5 15
3205 P	3205.106	1875	10-28-14	MSP	80	5 14 15
3205 P	3205.110	1875	10-28-14	MSP	93	5
3205 P	3205.203	1875	10-28-14	MSP	89	5 15
3205 P	3205.207	1875	10-29-14	MSP	82	5 15
3205 P	3205.304	1875	10-29-14	MSP	98	5
3205 P	3205.308	1875	10-29-14	MSP	93	5
3205 P	3205.401	1875	10-29-14	MSP	85	5 15
3205 P	3205.405	1875	10-29-14	MSP	89	5 15
3205 P	3205.409	1875	10-29-14	MSP	89	5 13 15
3205 P	3205.506	1875	10-29-14	MSP	93	5
3205 P	3205.510	1875	10-29-14	MSP	93	5

AVERAGE FEATURE PCI = 89
BASED ON A SAMPLED AREA OF 22500 SQUARE FEET - PCI SPREAD FOR FEATURE = 18.21

3210 P	3210.100	3300	10-29-14	BA	100	
3210 P	3210.200	3300	10-29-14	BA	100	

AVERAGE FEATURE PCI = 100
BASED ON A SAMPLED AREA OF 6600 SQUARE FEET - PCI SPREAD FOR FEATURE = 0.00

3305 P	3305.068	2850	10-29-14	BA	93	5
3305 P	3305.077	2394	10-29-14	BA	92	5 14 15
3305 P	3305.089	1922	10-29-14	BA	85	5 6 11
3305 P	3305.098	2280	10-29-14	BA	81	5 11 14 15
3305 P	3305.100	2480	10-29-14	MSP	87	5 14 15
3305 P	3305.104	2356	10-29-14	MSP	89	5 14
3305 P	3305.201	2356	10-29-14	MSP	81	5 14 15
3305 P	3305.205	2356	10-29-14	MSP	88	5 14 15
3305 P	3305.208	2356	10-29-14	BA	93	5
3305 P	3305.302	2356	10-29-14	MSP	93	5
3305 P	3305.306	2108	10-29-14	MSP	76	5 11 15
3305 P	3305.407	2356	10-29-14	BA	93	5

AVERAGE FEATURE PCI = 88
BASED ON A SAMPLED AREA OF 28170 SQUARE FEET - PCI SPREAD FOR FEATURE = 16.78

5010 A	5010.202	5000	10-27-14	MP	75	8 17
5010 A	5010.207	5000	10-27-14	BA	80	8 17
5010 A	5010.212	5000	10-27-14	MP	74	8 17

FEATURE:	SAMPLE UNIT:	AREA:	DATE:	SURVEYED BY:	PCI:	DISTRESSES PRESENT:
5010 A	5010.217	5000	10-27-14	BA	79	8 17
5010 A	5010.222	5000	10-27-14	MP	67	1 8 17
5010 A	5010.227	5000	10-27-14	BA	75	8 17
5010 A	5010.232	5000	10-27-14	BA	76	8 17
5010 A	5010.242	5000	10-27-14	MP	61	1 8 17
5010 A	5010.247	5000	10-27-14	MP	79	8 17
5010 A	5010.252	5000	10-27-14	MP	66	1 5 8 17
5010 A	5010.257	5000	10-27-14	MP	75	5 8 17
5010 A	5010.262	5000	10-27-14	MP	73	8 17

AVERAGE FEATURE PCI = 73
BASED ON A SAMPLED AREA OF 60000 SQUARE FEET - PCI SPREAD FOR FEATURE = 19.34

5015 A	5015.108	5000	10-27-14	ARA	79	8 17
5015 A	5015.113	5000	10-27-14	ARA	79	8 17
5015 A	5015.118	5000	10-27-14	ARA	75	8 17
5015 A	5015.123	5000	10-27-14	MP	80	8 17
5015 A	5015.133	5000	10-27-14	MP	77	8 17
5015 A	5015.143	5000	10-27-14	ARA	66	1 8 17
5015 A	5015.148	5000	10-27-14	BA	73	8 17
5015 A	5015.153	5000	10-27-14	BA	79	8 17
5015 A	5015.158	5000	10-27-14	BA	75	8 17
5015 A	5015.163	5000	10-27-14	BA	70	8 17
5015 A	5015.301	5000	10-27-14	MP	77	8 17
5015 A	5015.306	5000	10-27-14	MP	84	8 17
5015 A	5015.311	5000	10-27-14	MP	80	8 17
5015 A	5015.316	5000	10-27-14	MP	77	8 17
5015 A	5015.321	5000	10-27-14	MP	74	8 17
5015 A	5015.326	5000	10-27-14	MP	85	8 17
5015 A	5015.331	5000	10-27-14	MP	79	8 17
5015 A	5015.341	5000	10-27-14	MP	67	8 17
5015 A	5015.346	5000	10-27-14	MP	64	1 5 8 17
5015 A	5015.356	5000	10-27-14	MP	71	8 17
5015 A	5015.361	5000	10-27-14	MP	72	8 17

AVERAGE FEATURE PCI = 75
BASED ON A SAMPLED AREA OF 105000 SQUARE FEET - PCI SPREAD FOR FEATURE = 20.35

6005 A	6005.101	5000	10-28-2014	MP	75	8 17
6005 A	6005.105	5000	10-28-2014	MP	66	8 17
6005 A	6005.109	5000	10-28-2014	MP	66	8 17
6005 A	6005.117	5000	10-28-2014	MP	63	8 17
6005 A	6005.125	5000	10-28-2014	MP	70	8 17
6005 A	6005.131	5000	10-28-2014	MP	67	8 17
6005 A	6005.149	5000	10-28-2014	MP	79	8 17
6005 A	6005.153	5000	10-28-2014	MP	77	8 17
6005 A	6005.156	5000	10-28-2014	MP	80	8 17
6005 A	6005.160	5000	10-28-2014	MP	78	8 17
6005 A	6005.168	5000	10-28-2014	MP	61	8 10 17
6005 A	6005.176	5000	10-28-2014	MP	68	1 8 17
6005 A	6005.180	5000	10-28-2014	MP	65	1 8 17

AVERAGE FEATURE PCI = 70
BASED ON A SAMPLED AREA OF 65000 SQUARE FEET - PCI SPREAD FOR FEATURE = 18.73

6010 A	6010.133	5000	10-27-2014	MP	71	1 5 8 17
6010 A	6010.135	5000	10-27-2014	MP	63	8 17
6010 A	6010.143	5000	10-27-2014	BA	64	5 8 17
6010 A	6010.145	5000	10-27-2014	BA	54	1 8 17
6010 A	6010.147	5000	10-27-2014	MP	46	1 3 8 17

AVERAGE FEATURE PCI = 60
BASED ON A SAMPLED AREA OF 25000 SQUARE FEET - PCI SPREAD FOR FEATURE = 25.16

TOTAL NUMBER OF INSPECTED FEATURES = 46
TOTAL NUMBER OF INSPECTED SAMPLE UNITS = 199 **TOTAL AREA OF INSPECTED PAVEMENT = 861,605 S.F.**

* INDICATES "ADDITIONAL" SAMPLE UNITS.

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 & Trans. 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

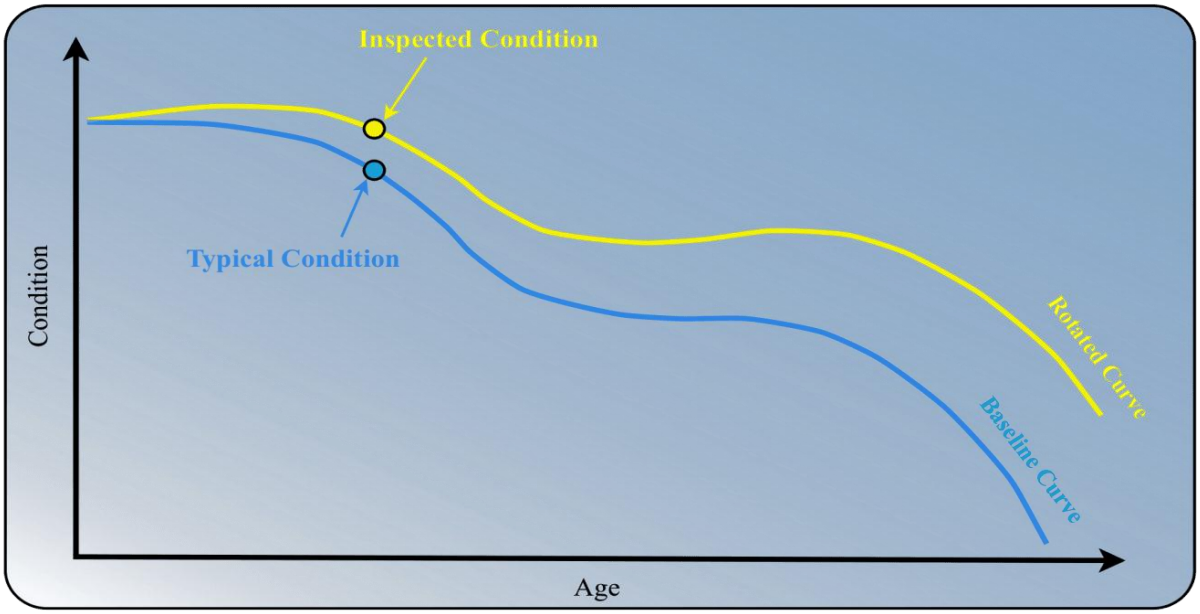
Pavement Performance Models

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, ACC, 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)

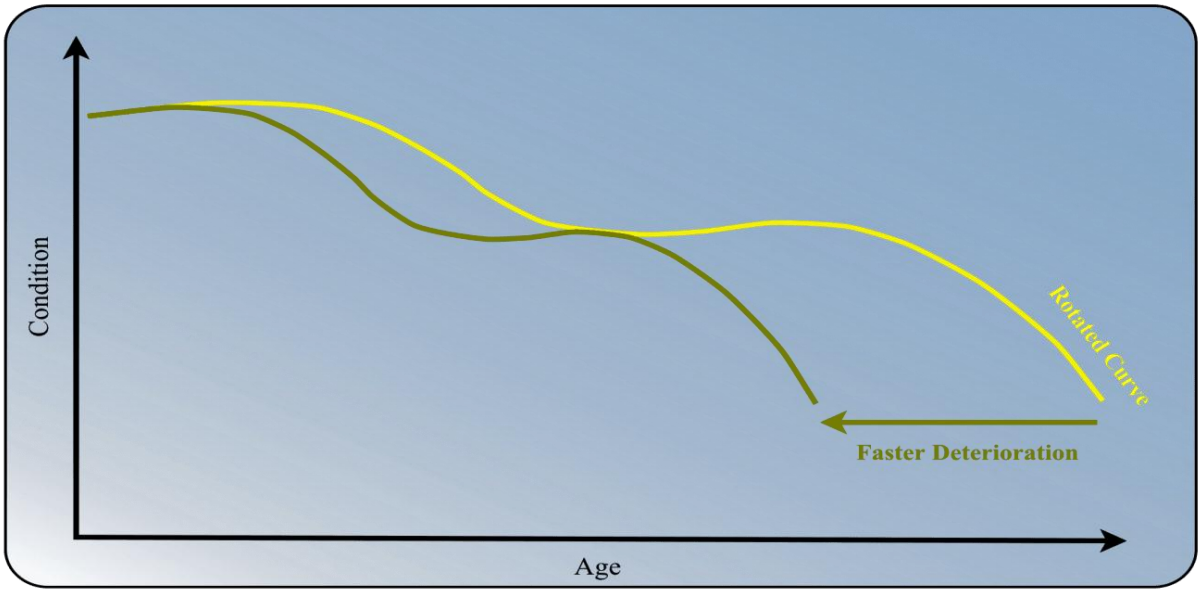
Starting with the baseline curve for comparison, current pavement condition is plotted, and the baseline curve is rotated to meet the current condition. The rotated curve provides the starting point for projecting the future pavement condition.



Advanced Analysis (accounting for distress)

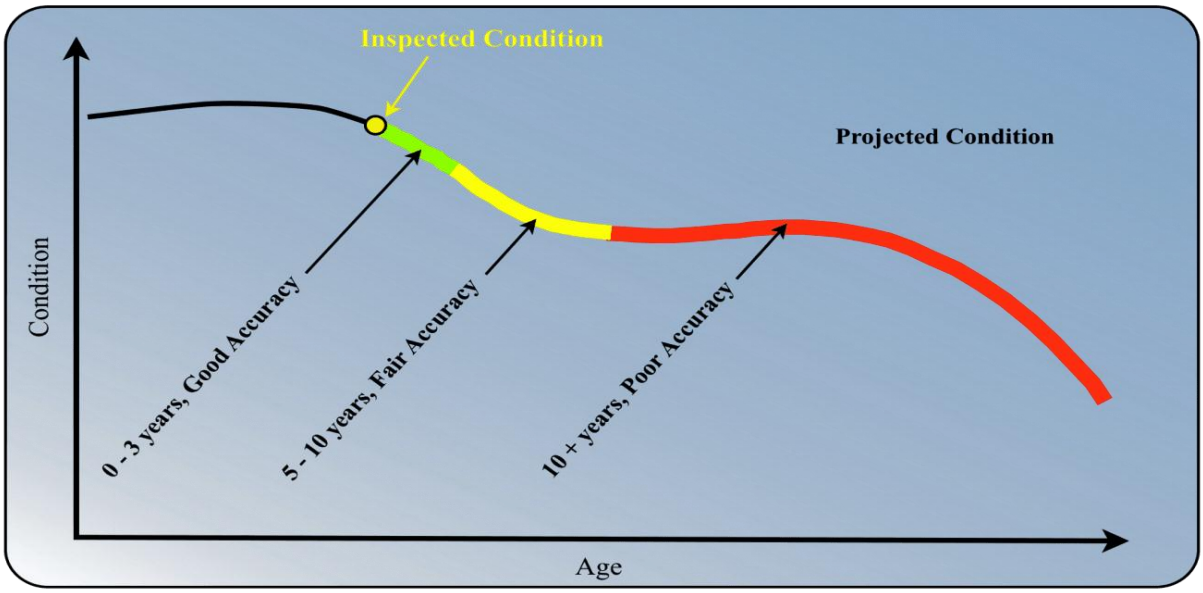
Some types of pavement distress have a greater impact on pavement deterioration than others. Rutting and alligator (fatigue) cracking are major structural failures and can lead to rapid pavement deterioration. Other distress types, like L&T cracking, develop slowly over time and typically do not cause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

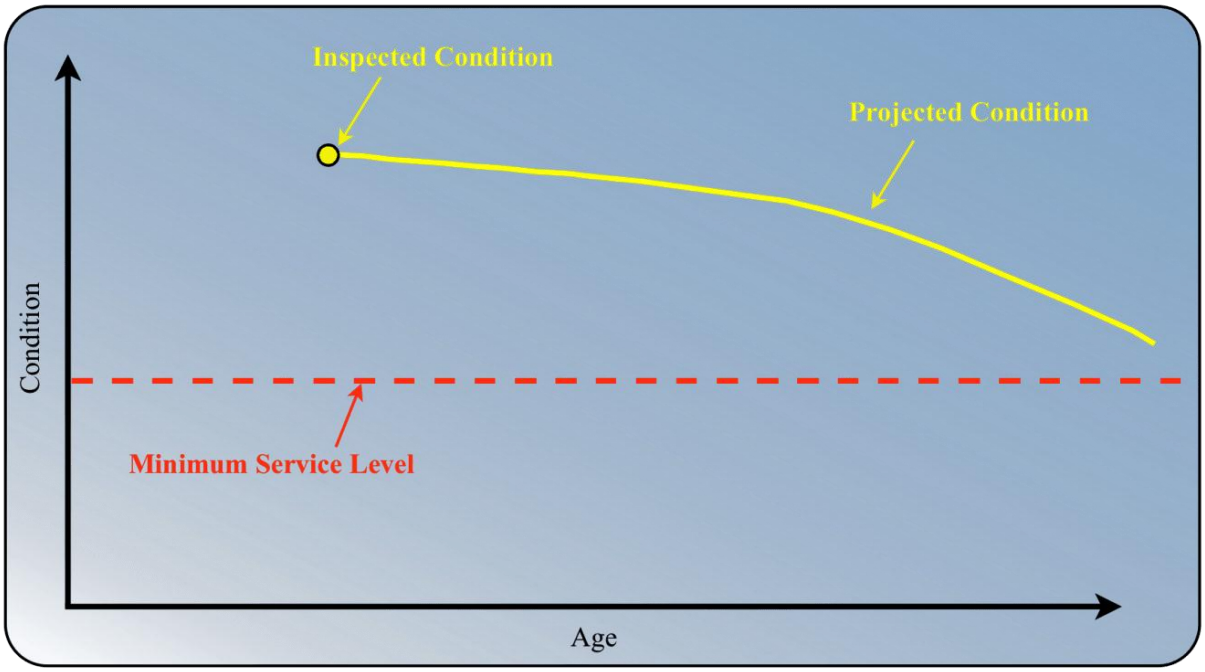


Projected PCI (why some features have unexpected projections)

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.



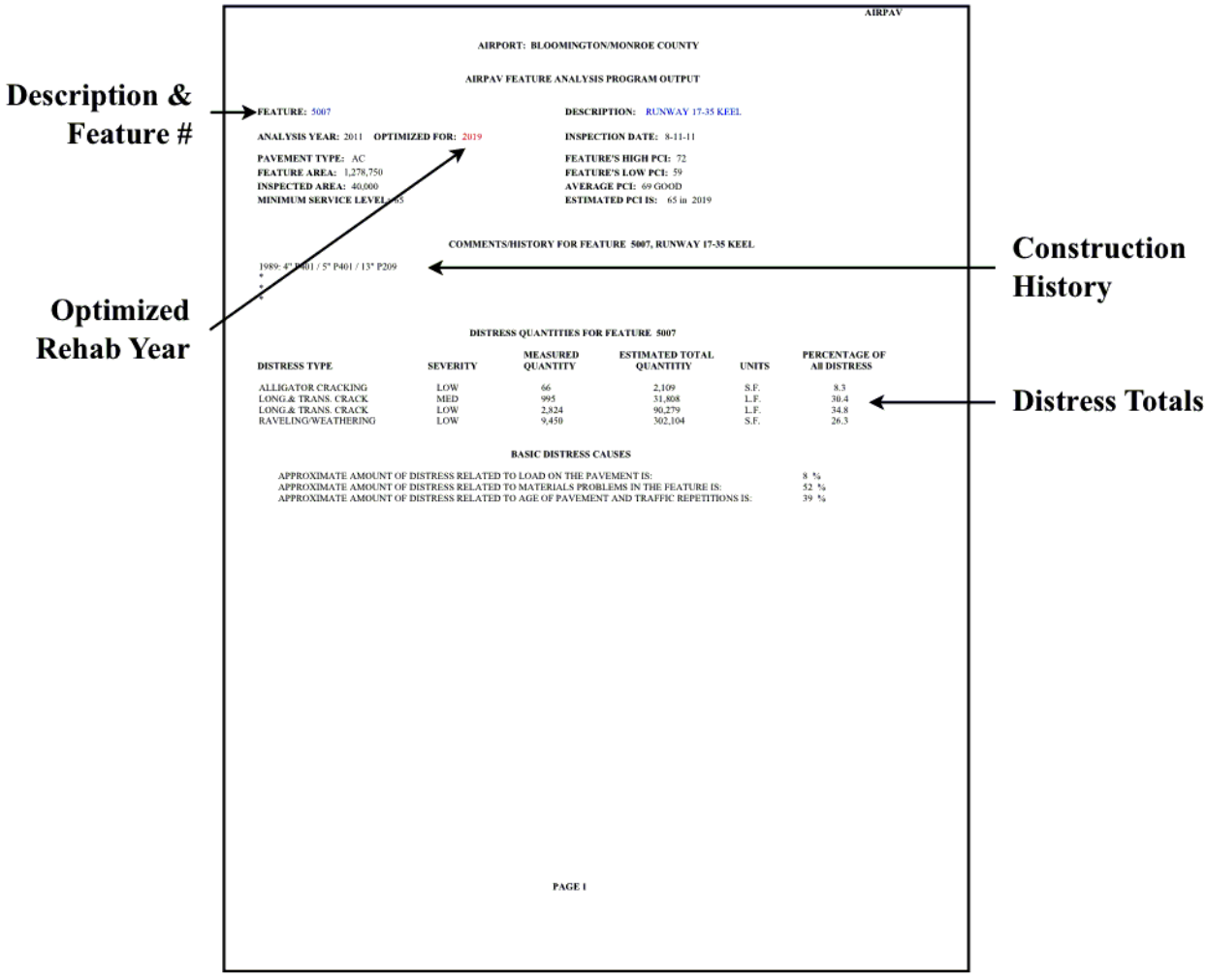
When long-term projections such as this are encountered, airport managers should not rely on projections in excess of 10 years. Managers can be confident that the pavement is performing much better than average and will not require rehabilitation within the current 5-year CIP planning window. As new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

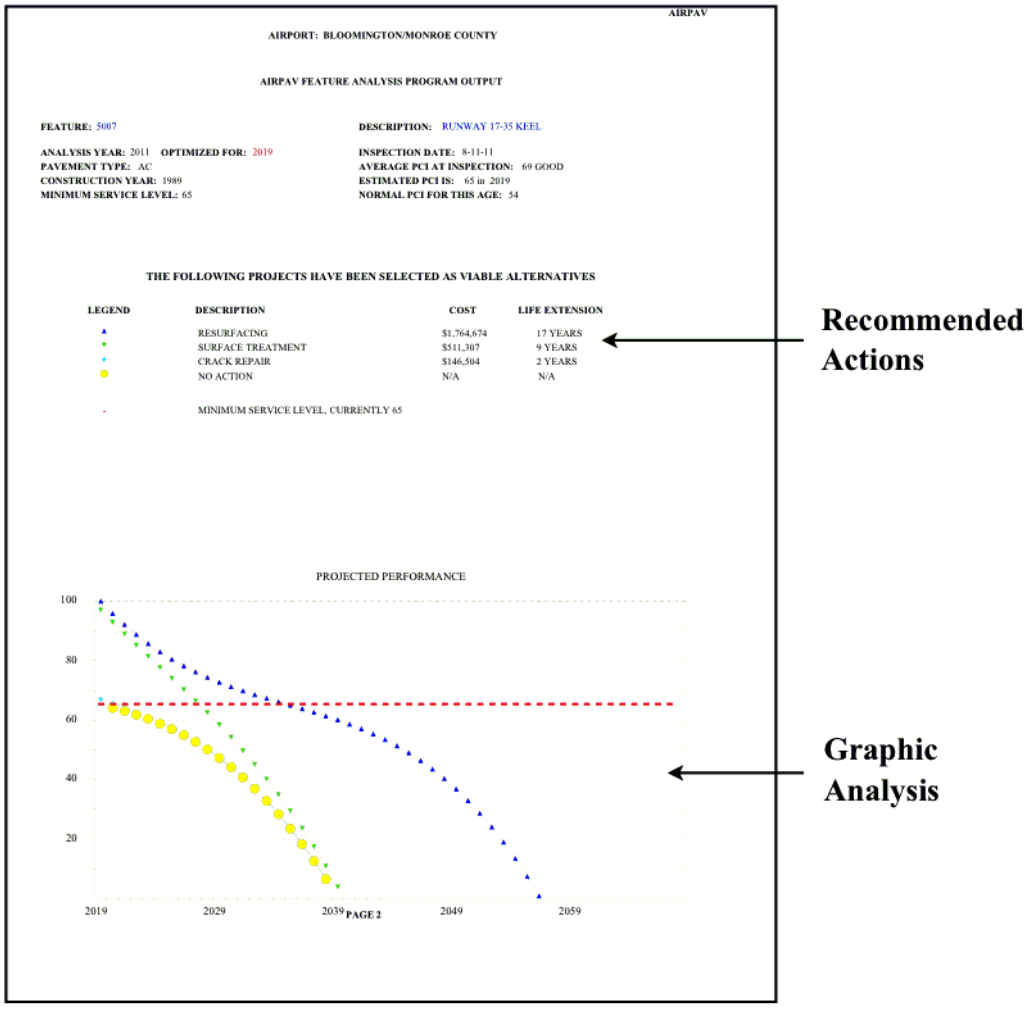
The first page of the analysis is a feature summary. Located near the top left-hand corner is the feature number and pavement description. Construction history and inspector comments are listed below, along with a photo of the pavement section if available. Distress totals recorded during the PCI survey 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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 101 **DESCRIPTION:** TAXIWAY C

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 85
FEATURE AREA: 263,602 **FEATURE'S LOW PCI:** 67
INSPECTED AREA: 61,500 **AVERAGE PCI:** 76 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2026

COMMENTS/HISTORY FOR FEATURE 101, TAXIWAY C

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 101

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	9	38	S.F.	4.4
LONG.& TRANS. CRACK	MED	554	2,374	L.F.	28.6
LONG.& TRANS. CRACK	LOW	2,966	12,712	L.F.	48
WEATHERING	MED	100	428	S.F.	.2
WEATHERING	LOW	57,200	245,171	S.F.	18.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	4 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	57 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	38 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 101 **DESCRIPTION:** TAXIWAY C

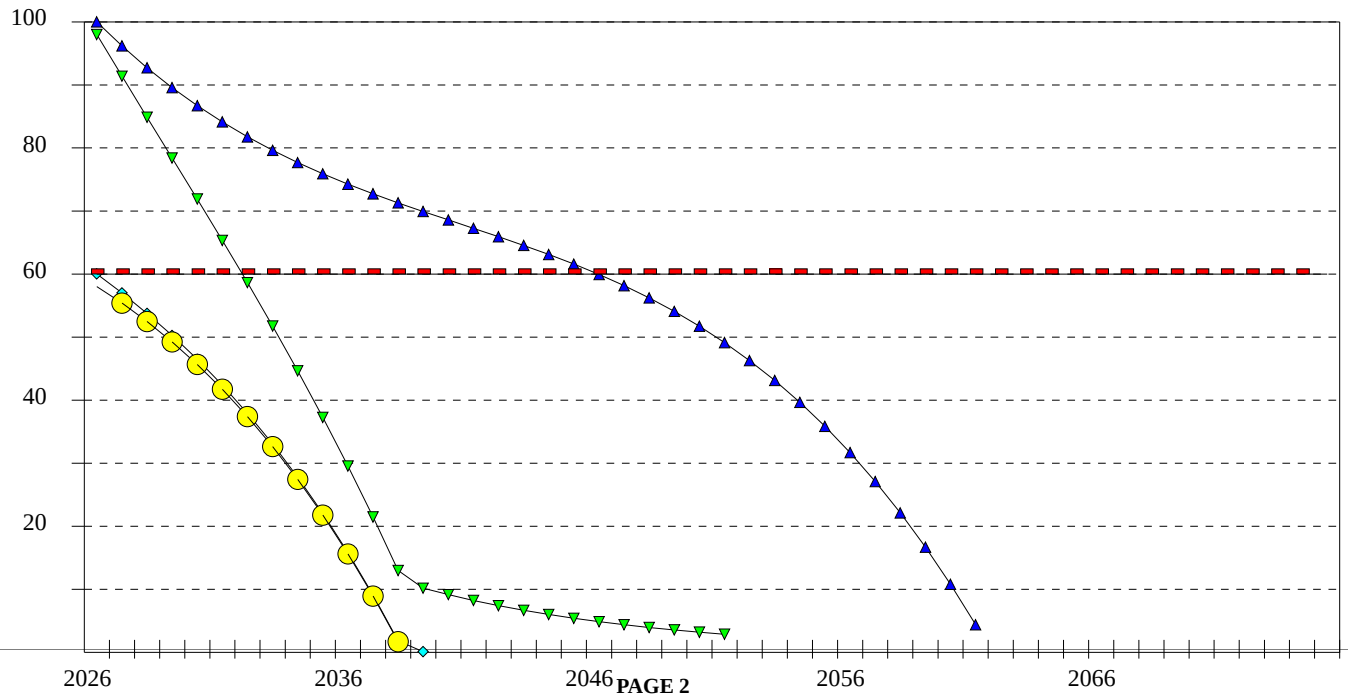
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 76 SATISFACTORY
ESTIMATED PCI IS: 58 in 2026
NORMAL PCI FOR THIS AGE: 49

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$379,586	20 YEARS
▼	SURFACE TREATMENT	$105,748	6 YEARS
◆	CRACK REPAIR	$18,706	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 102 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC
FEATURE AREA: 27,300
INSPECTED AREA: 15,000
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 82
FEATURE'S LOW PCI: 79
AVERAGE PCI: 80 SATISFACTORY
ESTIMATED PCI IS: 79 in 2015

COMMENTS/HISTORY FOR FEATURE 102, TAXIWAY B

2002: 1.5" P401 (1/2" Agg) / P603 / 2.5" P401 (3/4" Agg)
/Pulverized asphalt removal
1972: 3" P401 / 3" P201
1964: 3" P401 / 9" P208 / 7" P154

DISTRESS QUANTITIES FOR FEATURE 102

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	24	43	L.F.	22.6
LONG.& TRANS. CRACK	LOW	637	1,159	L.F.	58.7
WEATHERING	LOW	7,500	13,650	S.F.	18.5

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:	60 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	40 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

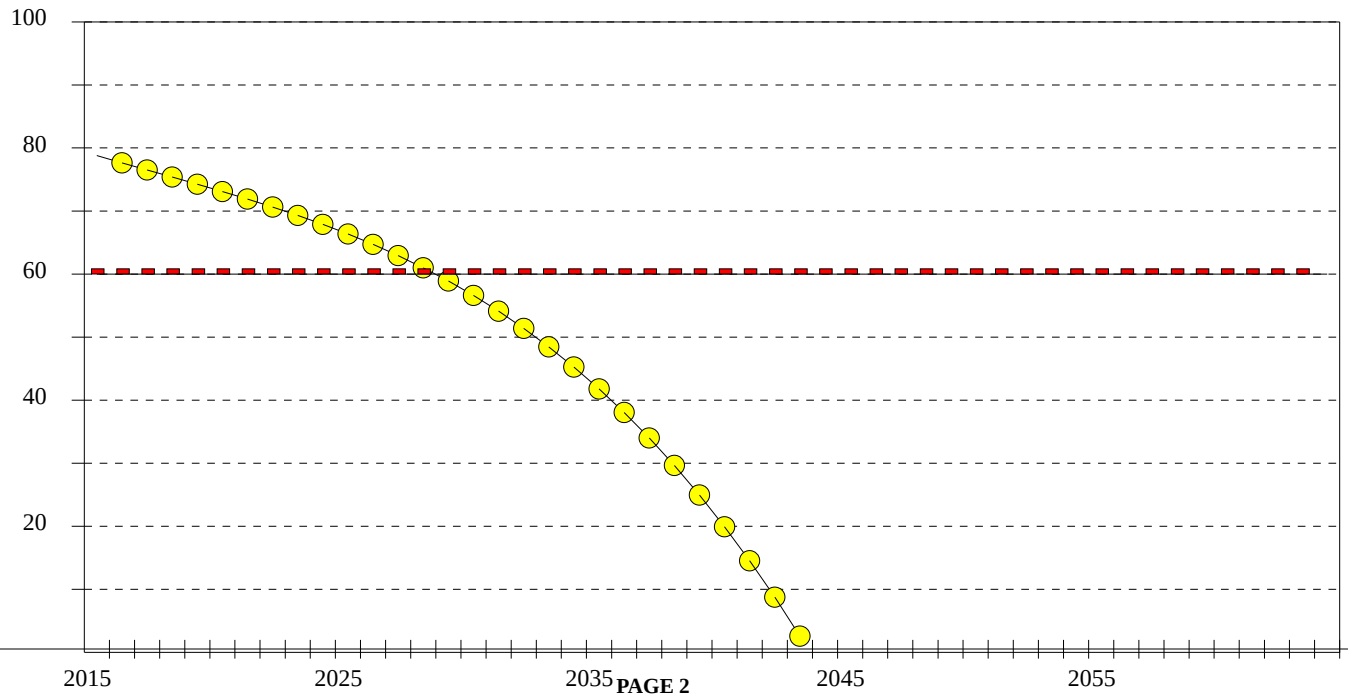
FEATURE: 102 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC **AVERAGE PCI AT INSPECTION:** 80 SATISFACTORY
CONSTRUCTION YEAR: 2002 **ESTIMATED PCI IS:** 79 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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 103 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 90
FEATURE AREA: 18,149 **FEATURE'S LOW PCI:** 90
INSPECTED AREA: 10,000 **AVERAGE PCI:** 90 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 85 in 2015

COMMENTS/HISTORY FOR FEATURE 103, TAXIWAY A

2004 AC Overlay est
1972: 3" P401 / 3" P201
1964: 3" P401 / 9" P208 / 7" P154
*

DISTRESS QUANTITIES FOR FEATURE 103

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	298	540	L.F.	85.7
WEATHERING	LOW	1,200	2,177	S.F.	14.2

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

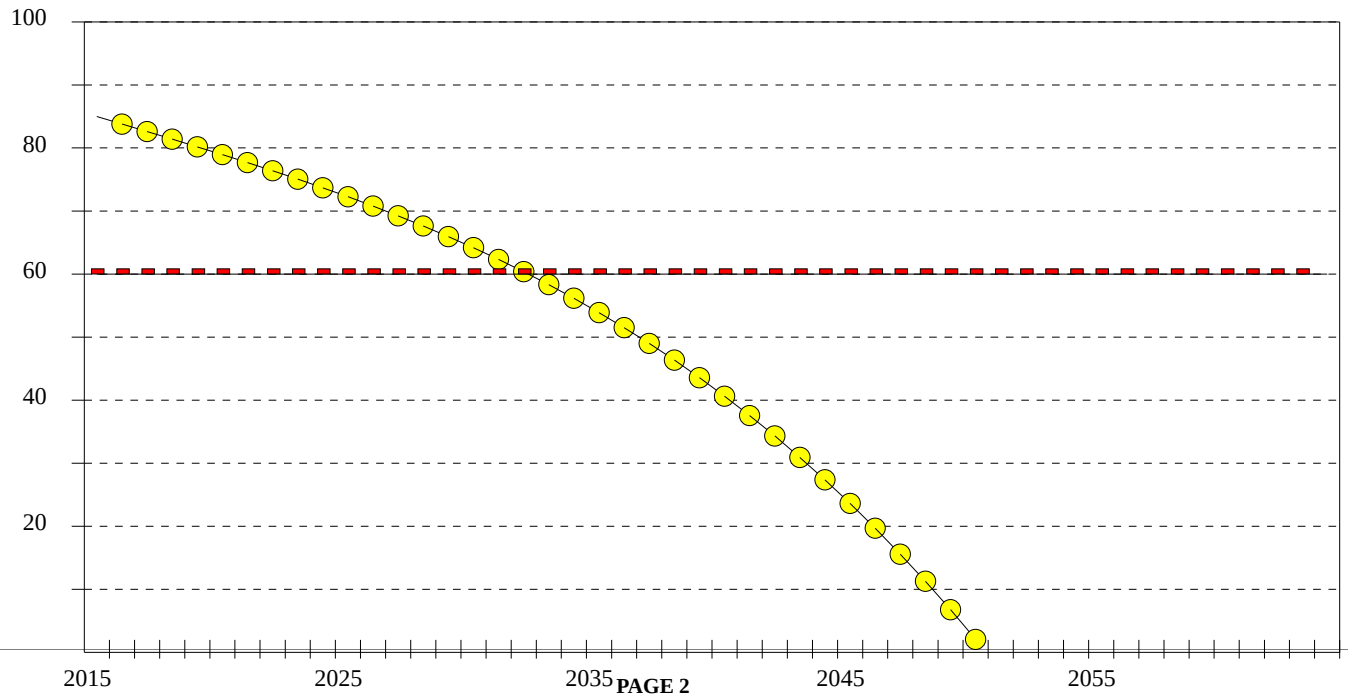
FEATURE: 103 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 90 GOOD
CONSTRUCTION YEAR: 2004 **ESTIMATED PCI IS:** 85 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 85

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 104 **DESCRIPTION:** TAXIWAY B-2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 90
FEATURE AREA: 7,000 **FEATURE'S LOW PCI:** 83
INSPECTED AREA: 7,000 **AVERAGE PCI:** 87 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 86 in 2015

COMMENTS/HISTORY FOR FEATURE 104, TAXIWAY B-2

2004 AC Overlay est
1964: AC OVERLAY
1960: AC UNKNOWN SECTION
*

DISTRESS QUANTITIES FOR FEATURE 104

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
DEPRESSION	LOW	20	20	S.F.	9.9
LONG.& TRANS. CRACK	LOW	249	249	L.F.	76.9
WEATHERING	LOW	1,100	1,100	S.F.	13

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

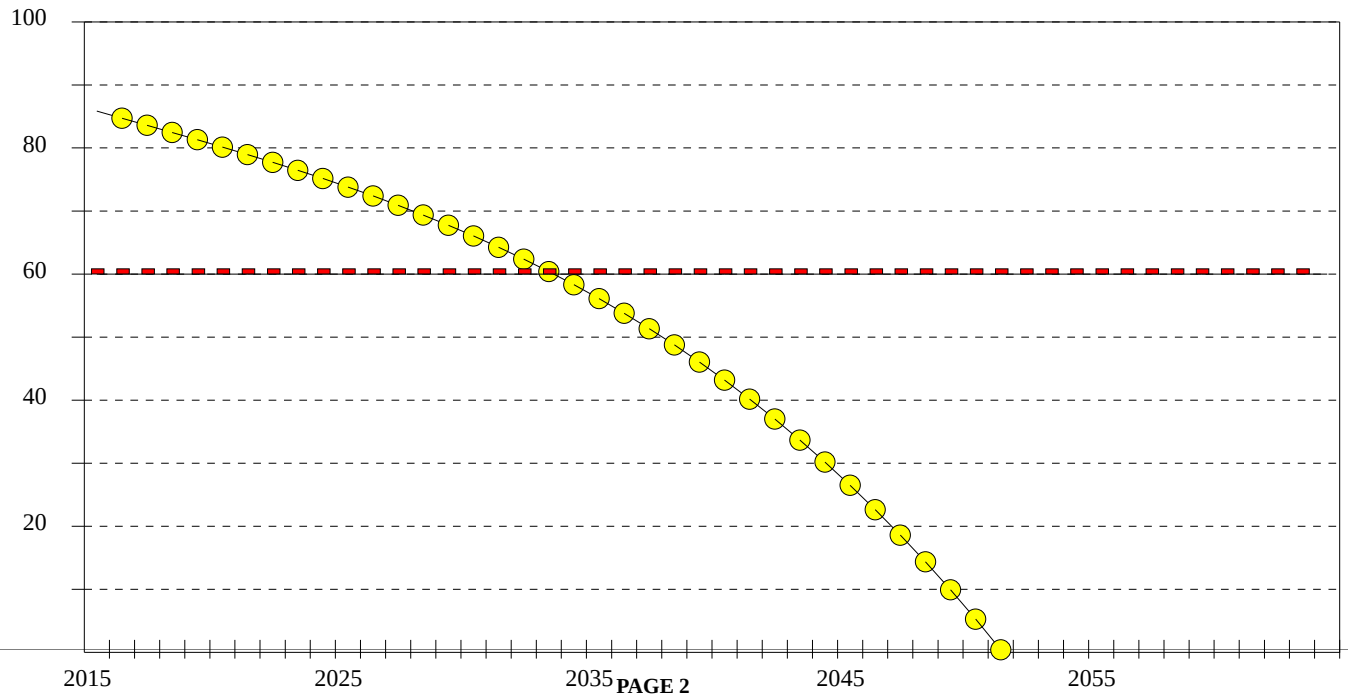
FEATURE: 104 **DESCRIPTION:** TAXIWAY B-2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 87 GOOD
CONSTRUCTION YEAR: 2004 **ESTIMATED PCI IS:** 86 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 85

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 105 **DESCRIPTION:** TAXIWAY C

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2016 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 72
FEATURE AREA: 7,425 **FEATURE'S LOW PCI:** 52
INSPECTED AREA: 7,425 **AVERAGE PCI:** 62 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2016

COMMENTS/HISTORY FOR FEATURE 105, TAXIWAY C

1996 1.5" P401
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 105

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	60	60	S.F.	33.3
ALLIGATOR CRACKING	LOW	11	11	S.F.	12.7
LONG.& TRANS. CRACK	MED	100	100	L.F.	22.2
LONG.& TRANS. CRACK	LOW	197	197	L.F.	15.9
PATCH & UTILITY CUT	MED	44	44	S.F.	10.5
WEATHERING	MED	80	80	S.F.	1
WEATHERING	LOW	2,000	2,000	S.F.	4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 53 %
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: 16 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 105 **DESCRIPTION:** TAXIWAY C

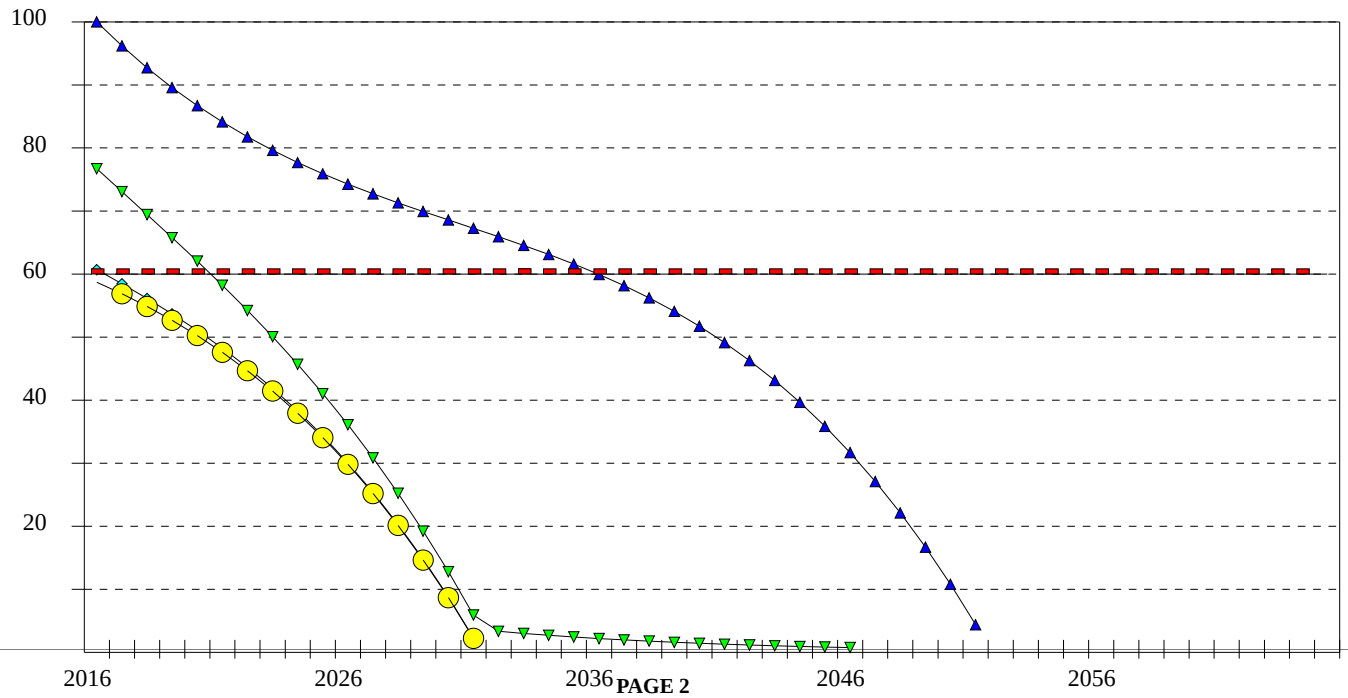
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2016
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1996
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 62 FAIR
ESTIMATED PCI IS: 59 in 2016
NORMAL PCI FOR THIS AGE: 59

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	STRUCTURAL OVERLAY	$16,780	20 YEARS
▼	SURFACE TREATMENT	$3,019	5 YEARS
◆	CRACK REPAIR	$368	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 106 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2017 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 74
FEATURE AREA: 7,000 **FEATURE'S LOW PCI:** 54
INSPECTED AREA: 5,350 **AVERAGE PCI:** 64 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2017

COMMENTS/HISTORY FOR FEATURE 106, TAXIWAY A

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 3" P401 / 3" P201
1964: 3" P401 / 9" P208 / 7" P154
*

DISTRESS QUANTITIES FOR FEATURE 106

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	3	3	S.F.	9.3
LONG.& TRANS. CRACK	MED	6	7	L.F.	6.9
LONG.& TRANS. CRACK	LOW	772	1,010	L.F.	64.7
WEATHERING	MED	500	654	S.F.	12.5
WEATHERING	LOW	1,300	1,700	S.F.	6.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	9 %
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:	37 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 106 **DESCRIPTION:** TAXIWAY A

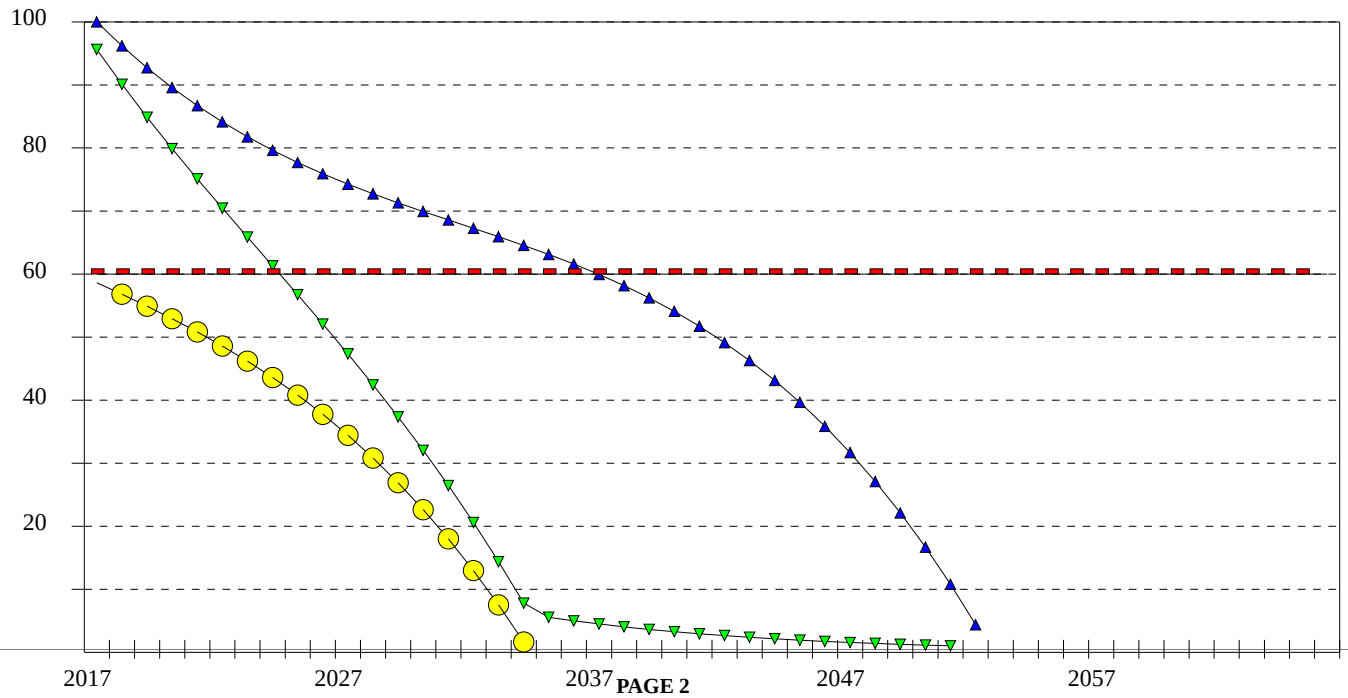
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2017
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 64 FAIR
ESTIMATED PCI IS: 59 in 2017
NORMAL PCI FOR THIS AGE: 65

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$10,080	20 YEARS
▼	SURFACE TREATMENT	$2,738	8 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 108 **DESCRIPTION:** TAXIWAY B-2

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 78
FEATURE AREA: 4,400 **FEATURE'S LOW PCI:** 71
INSPECTED AREA: 4,400 **AVERAGE PCI:** 75 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2025

COMMENTS/HISTORY FOR FEATURE 108, TAXIWAY B-2

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1964: AC OVERLAY
1960: AC UNKNOWN SECTION
*

DISTRESS QUANTITIES FOR FEATURE 108

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	400	400	L.F.	87.8
WEATHERING	LOW	1,400	1,400	S.F.	12.1

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 108 **DESCRIPTION:** TAXIWAY B-2

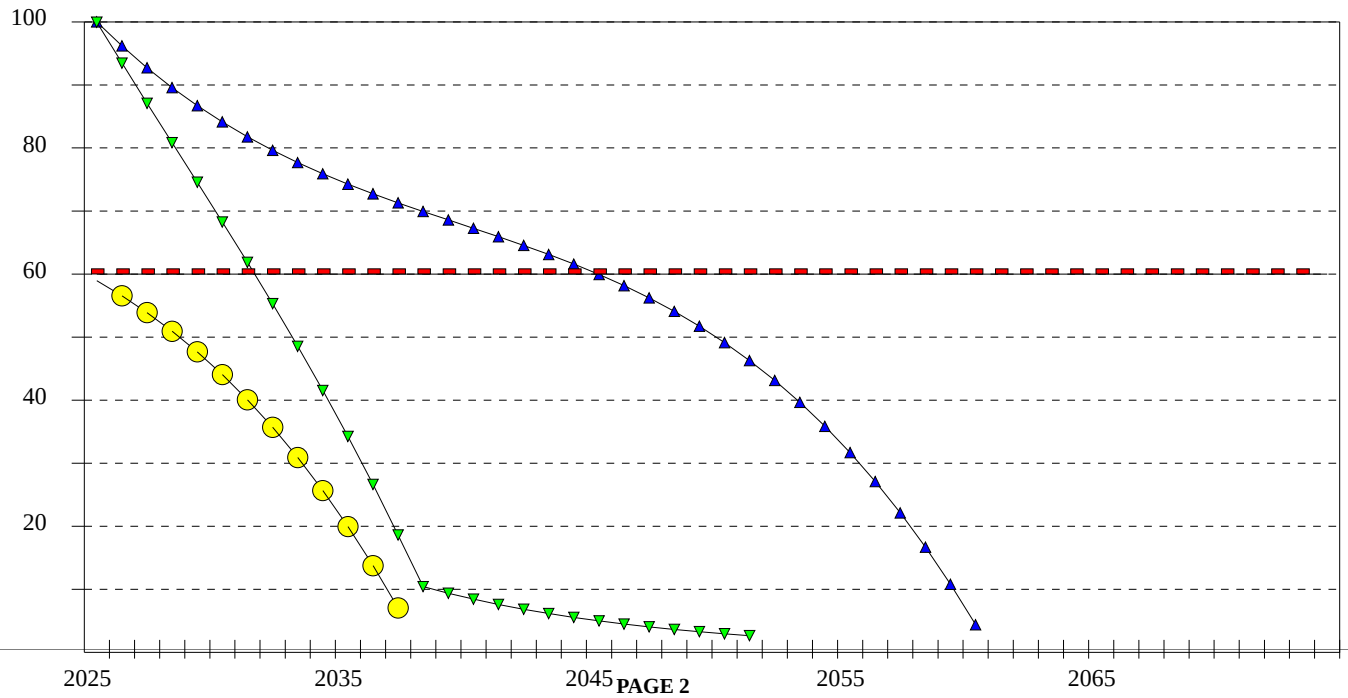
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 75 SATISFACTORY
ESTIMATED PCI IS: 59 in 2025
NORMAL PCI FOR THIS AGE: 51

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$6,336	20 YEARS
▼	SURFACE TREATMENT	$1,715	7 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 112 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY
FEATURE AREA: 20,577
INSPECTED AREA: 15,250
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 77
FEATURE'S LOW PCI: 74
AVERAGE PCI: 75 SATISFACTORY
ESTIMATED PCI IS: 59 in 2025

COMMENTS/HISTORY FOR FEATURE 112, TAXIWAY B

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 3" P401 / 3" P201
1964: 3" P401 / 9" P208 / 7" P154
*

DISTRESS QUANTITIES FOR FEATURE 112

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	47	63	L.F.	22.8
LONG.& TRANS. CRACK	LOW	932	1,257	L.F.	62.6
WEATHERING	LOW	8,400	11,334	S.F.	14.4

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 112 **DESCRIPTION:** TAXIWAY B

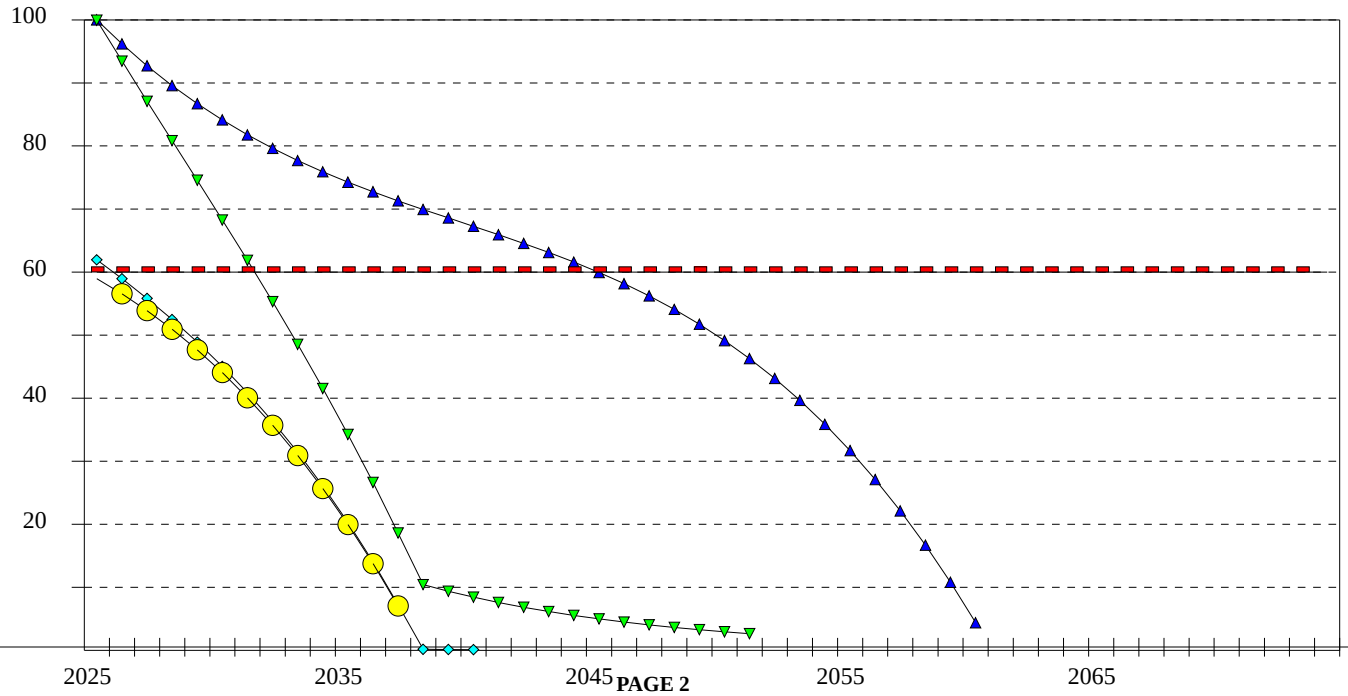
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 75 SATISFACTORY
ESTIMATED PCI IS: 59 in 2025
NORMAL PCI FOR THIS AGE: 51

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$29,630	20 YEARS
▼	SURFACE TREATMENT	$8,103	7 YEARS
◆	CRACK REPAIR	$1,636	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 120 **DESCRIPTION:** TAXIWAY C-3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 53
FEATURE AREA: 7,500 **FEATURE'S LOW PCI:** 53
INSPECTED AREA: 7,500 **AVERAGE PCI:** 53 POOR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 51 in 2015

COMMENTS/HISTORY FOR FEATURE 120, TAXIWAY C-3

1996 1.5" P401
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 120

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	28	28	S.F.	24.1
ALLIGATOR CRACKING	LOW	28	28	S.F.	17.2
LONG.& TRANS. CRACK	MED	302	302	L.F.	26.5
LONG.& TRANS. CRACK	LOW	261	261	L.F.	12.6
PATCH & UTILITY CUT	MED	80	80	S.F.	12.4
WEATHERING	MED	108	108	S.F.	.6
WEATHERING	LOW	6,500	6,500	S.F.	6.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 50 %
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: 18 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

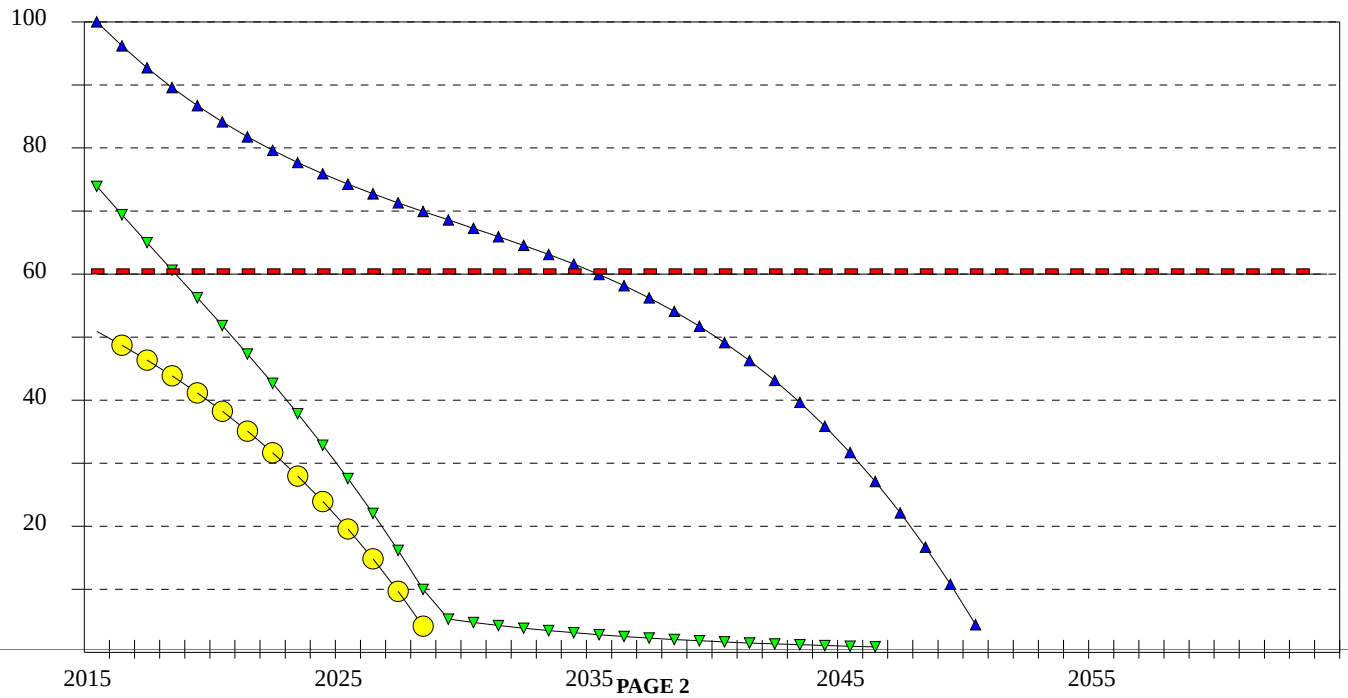
FEATURE: 120 **DESCRIPTION:** TAXIWAY C-3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 53 POOR
CONSTRUCTION YEAR: 1996 **ESTIMATED PCI IS:** 51 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 61

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$10,800	20 YEARS
▼	SURFACE TREATMENT	$3,299	4 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 121 **DESCRIPTION:** TAXIWAY C-3

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2019 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 69
FEATURE AREA: 22,745 **FEATURE'S LOW PCI:** 65
INSPECTED AREA: 13,200 **AVERAGE PCI:** 67 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2019

COMMENTS/HISTORY FOR FEATURE 121, TAXIWAY C-3

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1996 1.5" P401
1972: 4" P401 / 6" P201 / 14" P154
*

DISTRESS QUANTITIES FOR FEATURE 121

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	44	75	S.F.	18.9
DEPRESSION	LOW	120	206	S.F.	10.8
LONG.& TRANS. CRACK	MED	198	341	L.F.	25.8
LONG.& TRANS. CRACK	LOW	828	1,426	L.F.	34.8
WEATHERING	MED	300	516	S.F.	2.9
WEATHERING	LOW	4,700	8,098	S.F.	6.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 19 %
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: 27 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 121 **DESCRIPTION:** TAXIWAY C-3

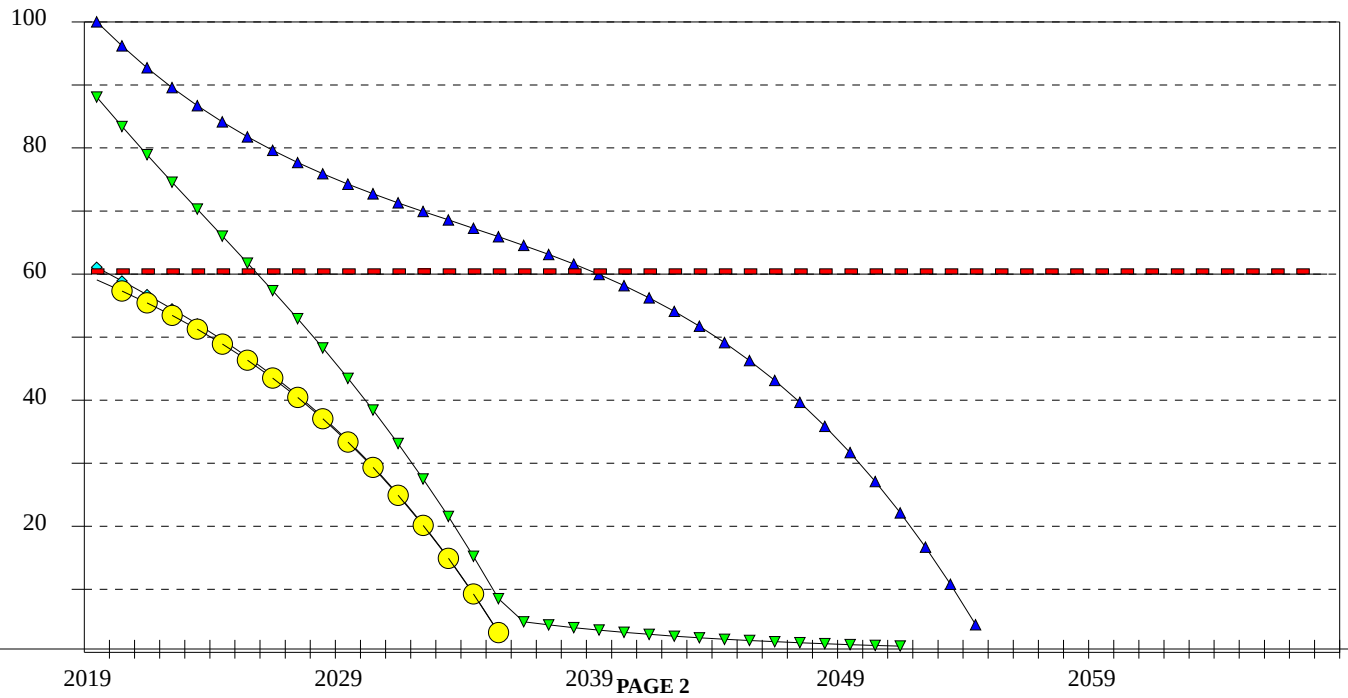
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2019
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 67 FAIR
ESTIMATED PCI IS: 59 in 2019
NORMAL PCI FOR THIS AGE: 63

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$32,752	20 YEARS
▼	SURFACE TREATMENT	$9,293	7 YEARS
◆	CRACK REPAIR	$2,191	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 140 **DESCRIPTION:** TAXIWAY C-2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 54
FEATURE AREA: 10,500 **FEATURE'S LOW PCI:** 32
INSPECTED AREA: 6,275 **AVERAGE PCI:** 43 POOR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 40 in 2015

COMMENTS/HISTORY FOR FEATURE 140, TAXIWAY C-2

1996 1.5" P401
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 140

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	HIGH	6	10	S.F.	9.4
ALLIGATOR CRACKING	MED	32	53	S.F.	13.4
ALLIGATOR CRACKING	LOW	20	33	S.F.	8.1
BLOCK CRACKING	MED	800	1,338	S.F.	15.3
LONG.& TRANS. CRACK	MED	110	184	L.F.	11.7
LONG.& TRANS. CRACK	LOW	567	948	L.F.	18.7
RAVELING	MED	250	418	S.F.	8.5
RAVELING	LOW	50	83	S.F.	1.8
WEATHERING	MED	2,450	4,099	S.F.	10.5
WEATHERING	LOW	2,400	4,015	S.F.	2.3

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: 28 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 41 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

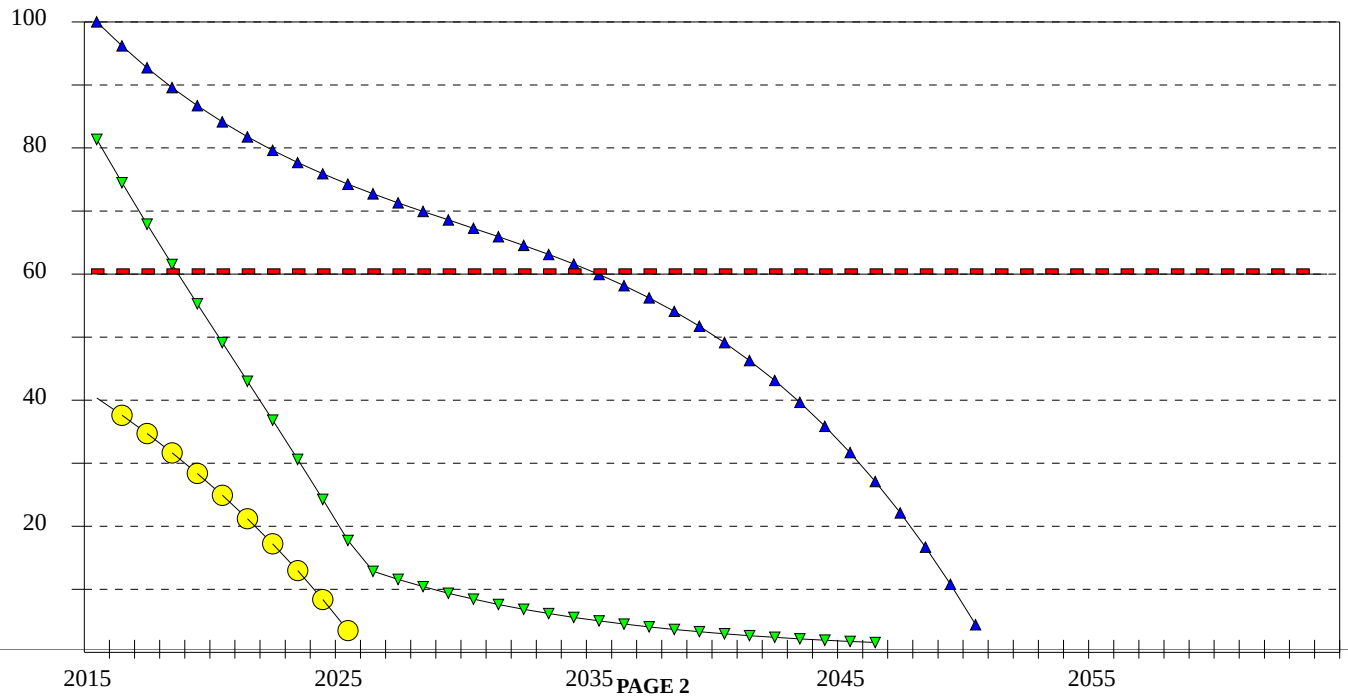
FEATURE: 140 **DESCRIPTION:** TAXIWAY C-2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 43 POOR
CONSTRUCTION YEAR: 1996 **ESTIMATED PCI IS:** 40 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 61

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$15,120	20 YEARS
▼	SURFACE TREATMENT	$5,318	4 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 145 **DESCRIPTION:** TAXIWAY C-2

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 76
FEATURE AREA: 30,200 **FEATURE'S LOW PCI:** 56
INSPECTED AREA: 16,500 **AVERAGE PCI:** 69 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2021

COMMENTS/HISTORY FOR FEATURE 145, TAXIWAY C-2

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 145

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	400	732	L.F.	40.1
LONG.& TRANS. CRACK	LOW	951	1,740	L.F.	37.8
RAVELING	MED	50	91	S.F.	7.4
RAVELING	LOW	50	91	S.F.	2
WEATHERING	MED	550	1,006	S.F.	5.9
WEATHERING	LOW	4,500	8,236	S.F.	6.4

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:	59 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	41 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 145 **DESCRIPTION:** TAXIWAY C-2

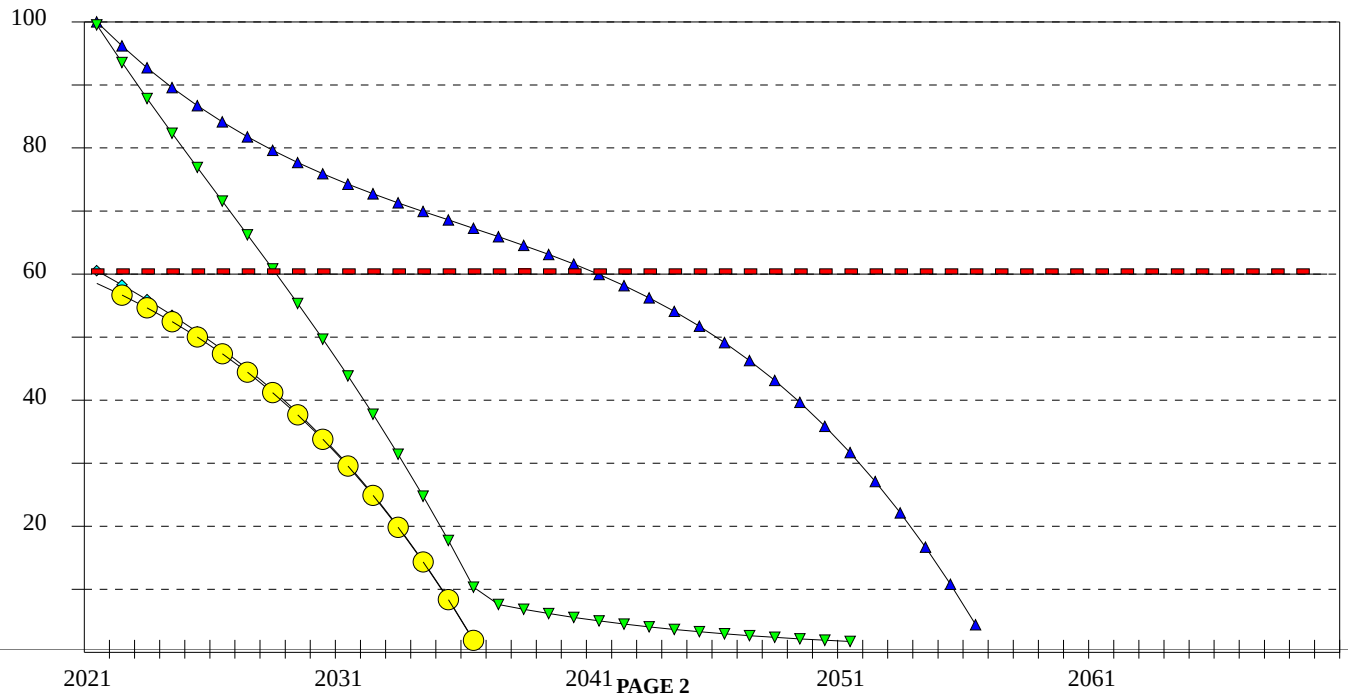
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 69 FAIR
ESTIMATED PCI IS: 59 in 2021
NORMAL PCI FOR THIS AGE: 59

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$43,488	20 YEARS
▼	SURFACE TREATMENT	$12,685	8 YEARS
◆	CRACK REPAIR	$3,065	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 150 **DESCRIPTION:** TAXIWAY C-1

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2018 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 67
FEATURE AREA: 18,500 **FEATURE'S LOW PCI:** 65
INSPECTED AREA: 11,600 **AVERAGE PCI:** 66 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2018

COMMENTS/HISTORY FOR FEATURE 150, TAXIWAY C-1

1996 1.5" P401
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 150

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	185	295	L.F.	29.7
LONG.& TRANS. CRACK	LOW	1,350	2,153	L.F.	59.4
WEATHERING	MED	50	79	S.F.	.6
WEATHERING	LOW	7,200	11,482	S.F.	10.1

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 150 **DESCRIPTION:** TAXIWAY C-1

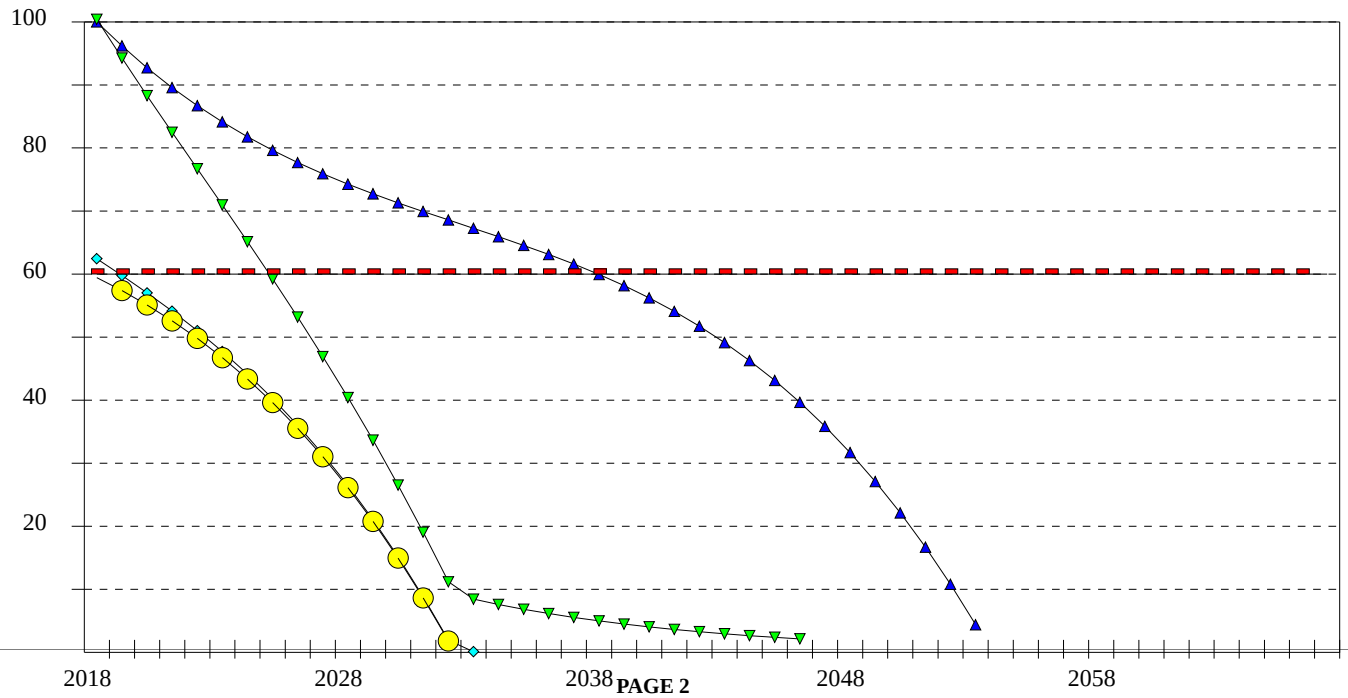
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2018
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1996
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 66 FAIR
ESTIMATED PCI IS: 59 in 2018
NORMAL PCI FOR THIS AGE: 56

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$26,640	20 YEARS
▼	SURFACE TREATMENT	$7,580	7 YEARS
◆	CRACK REPAIR	$3,035	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 155 **DESCRIPTION:** TAXIWAY C-1

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2020 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 68
FEATURE AREA: 25,300 **FEATURE'S LOW PCI:** 68
INSPECTED AREA: 13,300 **AVERAGE PCI:** 68 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2020

COMMENTS/HISTORY FOR FEATURE 155, TAXIWAY C-1

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 155

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	6	11	S.F.	11
ALLIGATOR CRACKING	LOW	18	34	S.F.	13.6
LONG.& TRANS. CRACK	HIGH	3	5	L.F.	7.7
LONG.& TRANS. CRACK	MED	138	262	L.F.	23.7
LONG.& TRANS. CRACK	LOW	701	1,333	L.F.	32
WEATHERING	LOW	12,000	22,827	S.F.	11.6

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: 46 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 29 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 155 **DESCRIPTION:** TAXIWAY C-1

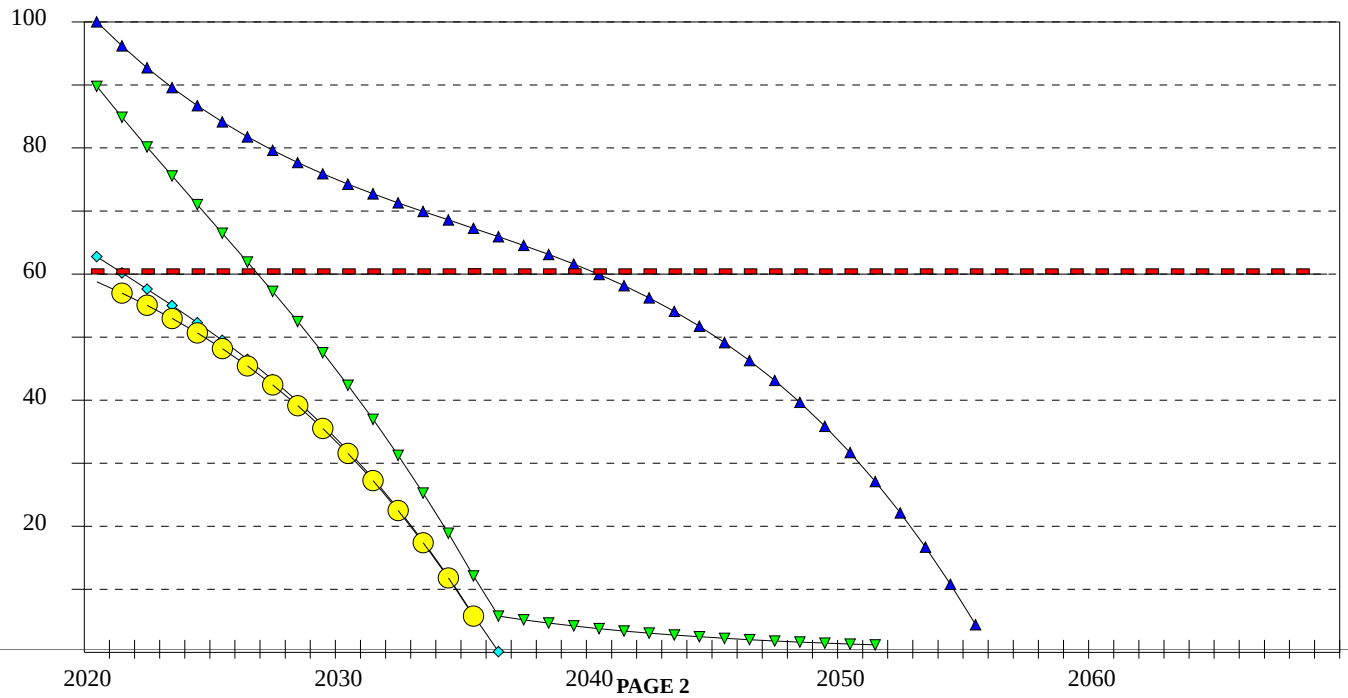
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2020
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 68 FAIR
ESTIMATED PCI IS: 59 in 2020
NORMAL PCI FOR THIS AGE: 61

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$36,432	20 YEARS
▼	SURFACE TREATMENT	$10,198	7 YEARS
◆	CRACK REPAIR	$1,984	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 160 **DESCRIPTION:** TAXIWAY C-1

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 79
FEATURE AREA: 12,090 **FEATURE'S LOW PCI:** 72
INSPECTED AREA: 10,300 **AVERAGE PCI:** 76 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2026

COMMENTS/HISTORY FOR FEATURE 160, TAXIWAY C-1

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
EST. 1972: 4" P401 / 6" P201 / 14" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 160

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
DEPRESSION	LOW	10	11	S.F.	0
LONG.& TRANS. CRACK	MED	63	73	L.F.	29.4
LONG.& TRANS. CRACK	LOW	512	601	L.F.	51.6
WEATHERING	MED	308	361	S.F.	6.2
WEATHERING	LOW	4,300	5,047	S.F.	12.6

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:	60 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	40 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 160 **DESCRIPTION:** TAXIWAY C-1

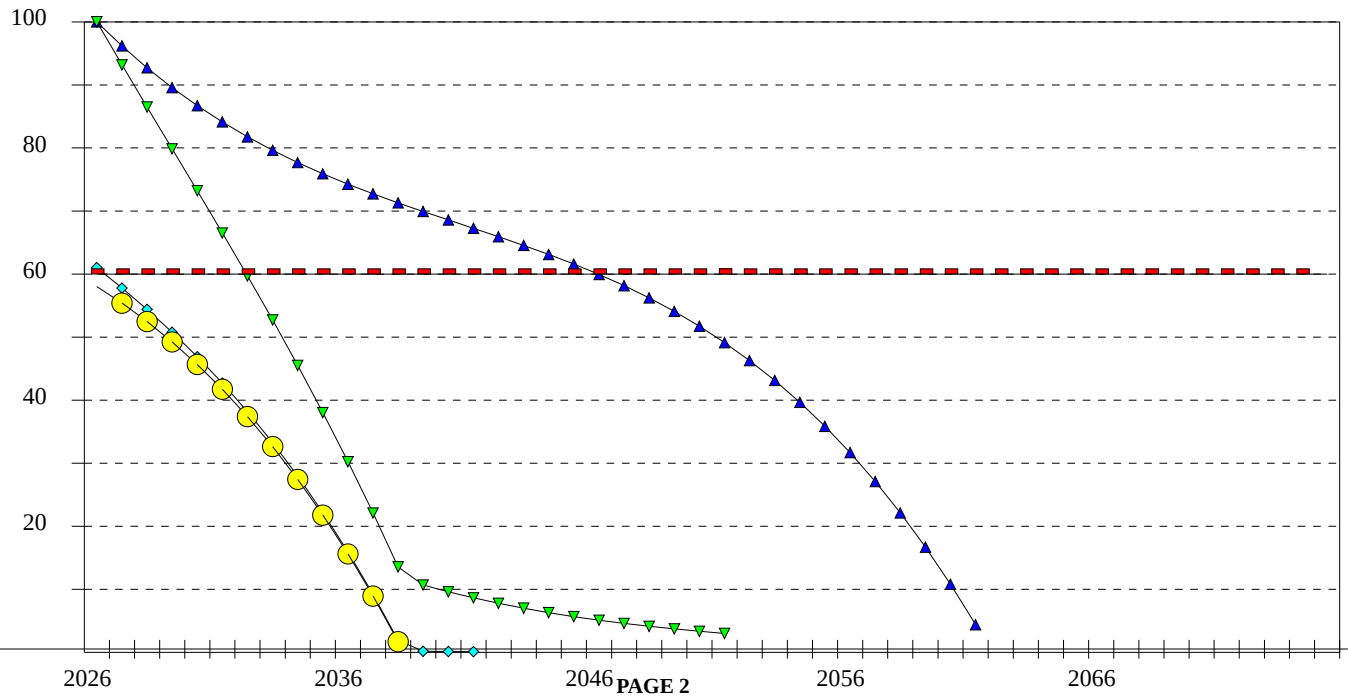
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2026
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 76 SATISFACTORY
ESTIMATED PCI IS: 58 in 2026
NORMAL PCI FOR THIS AGE: 49

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$17,409	20 YEARS
▼	SURFACE TREATMENT	$4,805	6 YEARS
◆	CRACK REPAIR	$835	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 201 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 86
FEATURE AREA: 89,933 **FEATURE'S LOW PCI:** 83
INSPECTED AREA: 30,000 **AVERAGE PCI:** 84 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 83 in 2015

COMMENTS/HISTORY FOR FEATURE 201, TAXIWAY B

2005: AC Overlay
1972: 4" P401 / 4" P201/ 10" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 201

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	181	542	L.F.	48.1
LONG.& TRANS. CRACK	LOW	661	1,981	L.F.	39.8
WEATHERING	LOW	5,600	16,787	S.F.	12

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

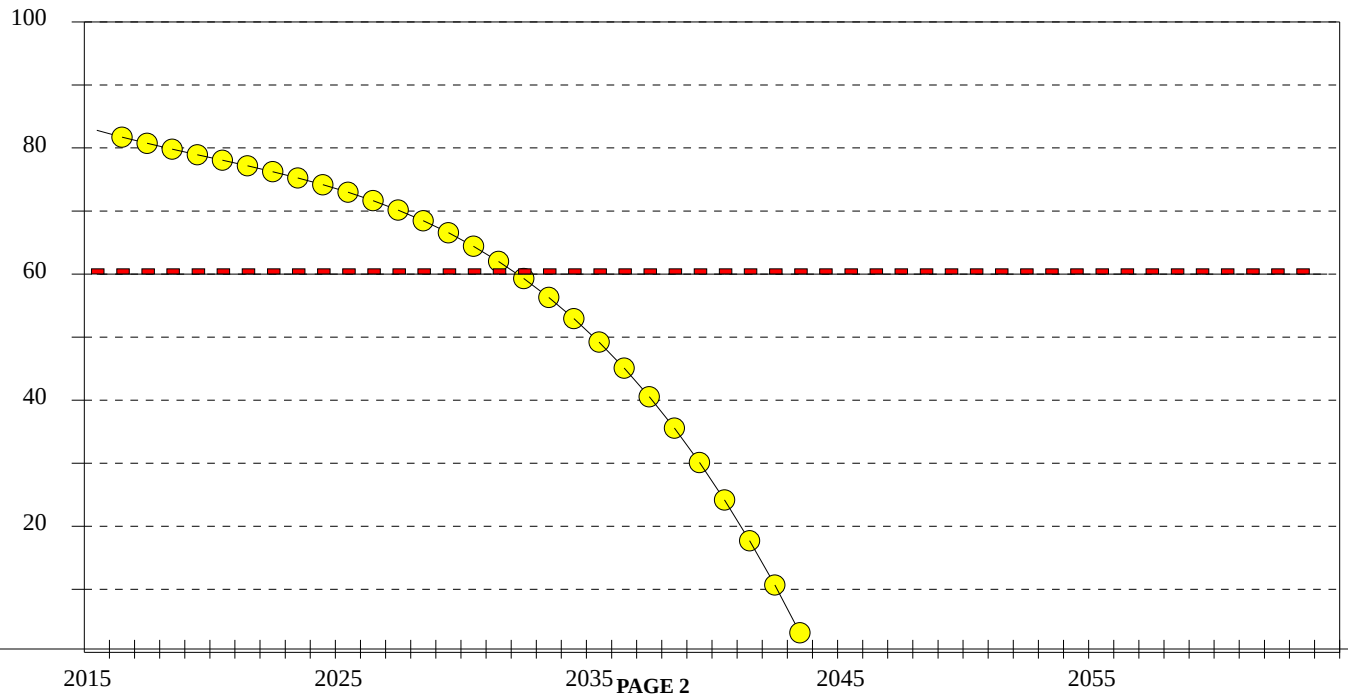
FEATURE: 201 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 84 SATISFACTORY
CONSTRUCTION YEAR: 2005 **ESTIMATED PCI IS:** 83 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 74

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 205 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 71
FEATURE AREA: 7,600 **FEATURE'S LOW PCI:** 71
INSPECTED AREA: 7,600 **AVERAGE PCI:** 71 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2021

COMMENTS/HISTORY FOR FEATURE 205, TAXIWAY B

1996 1.5" P401
1972 4" P401
4" P201
10" P154

DISTRESS QUANTITIES FOR FEATURE 205

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	37	37	L.F.	23.1
LONG.& TRANS. CRACK	LOW	371	371	L.F.	42.9
WEATHERING	MED	800	800	S.F.	18.3
WEATHERING	LOW	6,200	6,200	S.F.	15.5

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:	55 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	45 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 205 **DESCRIPTION:** TAXIWAY B

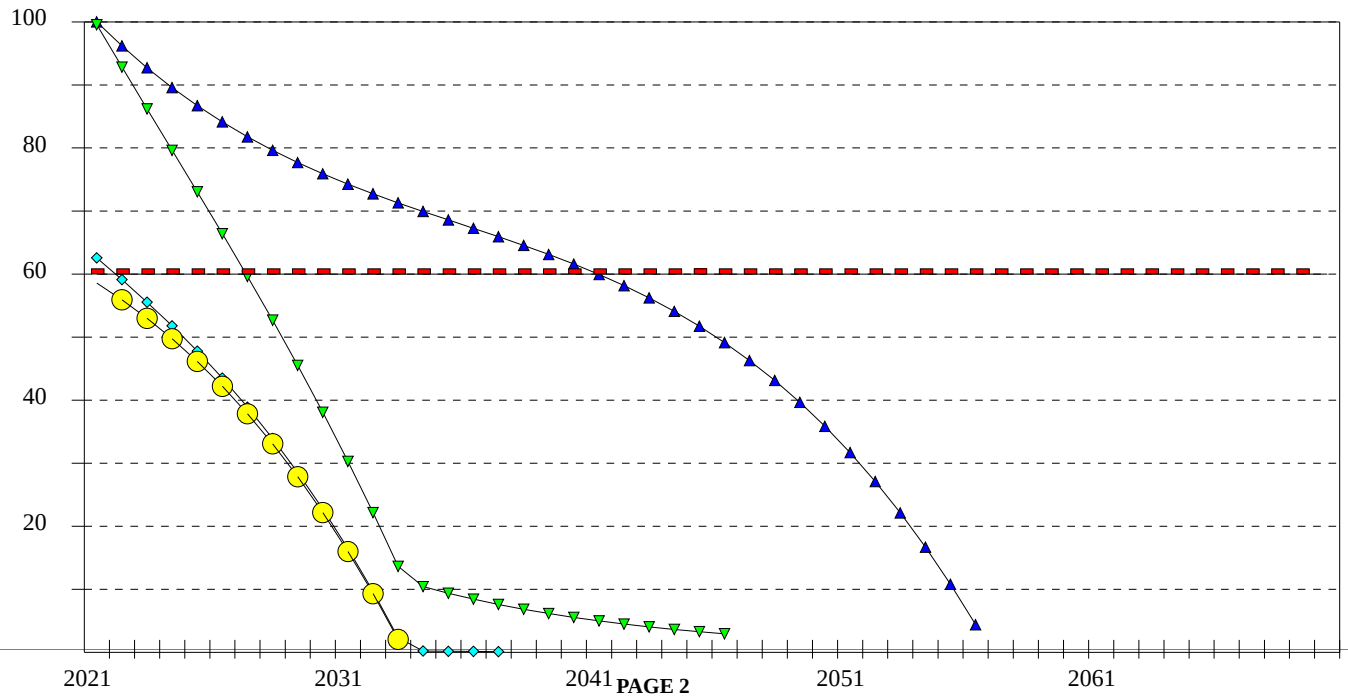
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 1996
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 71 SATISFACTORY
ESTIMATED PCI IS: 59 in 2021
NORMAL PCI FOR THIS AGE: 49

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$10,944	20 YEARS
▼	SURFACE TREATMENT	$3,009	6 YEARS
◆	CRACK REPAIR	$505	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 290 **DESCRIPTION:** TAXIWAY B-4

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 84
FEATURE AREA: 6,459 **FEATURE'S LOW PCI:** 84
INSPECTED AREA: 6,175 **AVERAGE PCI:** 84 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 83 in 2015

COMMENTS/HISTORY FOR FEATURE 290, TAXIWAY B-4

2005: AC Overlay
1972: 4" P401 / 4" P201/ 10" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 290

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	43	45	L.F.	47.6
LONG.& TRANS. CRACK	LOW	205	214	L.F.	52.3

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

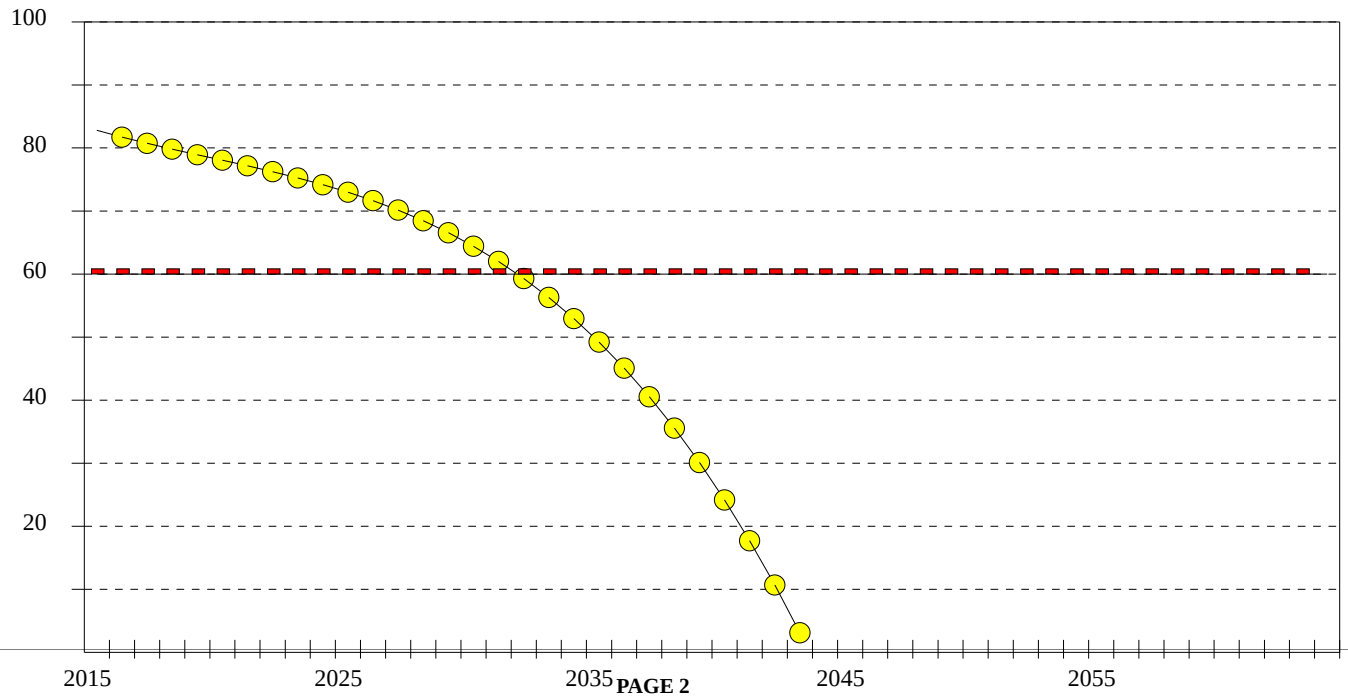
FEATURE: 290 **DESCRIPTION:** TAXIWAY B-4

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 84 SATISFACTORY
CONSTRUCTION YEAR: 2005 **ESTIMATED PCI IS:** 83 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 74

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 291 **DESCRIPTION:** TAXIWAY B-4

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 72
FEATURE AREA: 6,800 **FEATURE'S LOW PCI:** 72
INSPECTED AREA: 6,800 **AVERAGE PCI:** 72 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2023

COMMENTS/HISTORY FOR FEATURE 291, TAXIWAY B-4

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 4" P401 / 4" P201/ 10" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 291

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	49	49	L.F.	28.2
LONG.& TRANS. CRACK	LOW	525	525	L.F.	59.9
WEATHERING	LOW	3,400	3,400	S.F.	11.8

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 291 **DESCRIPTION:** TAXIWAY B-4

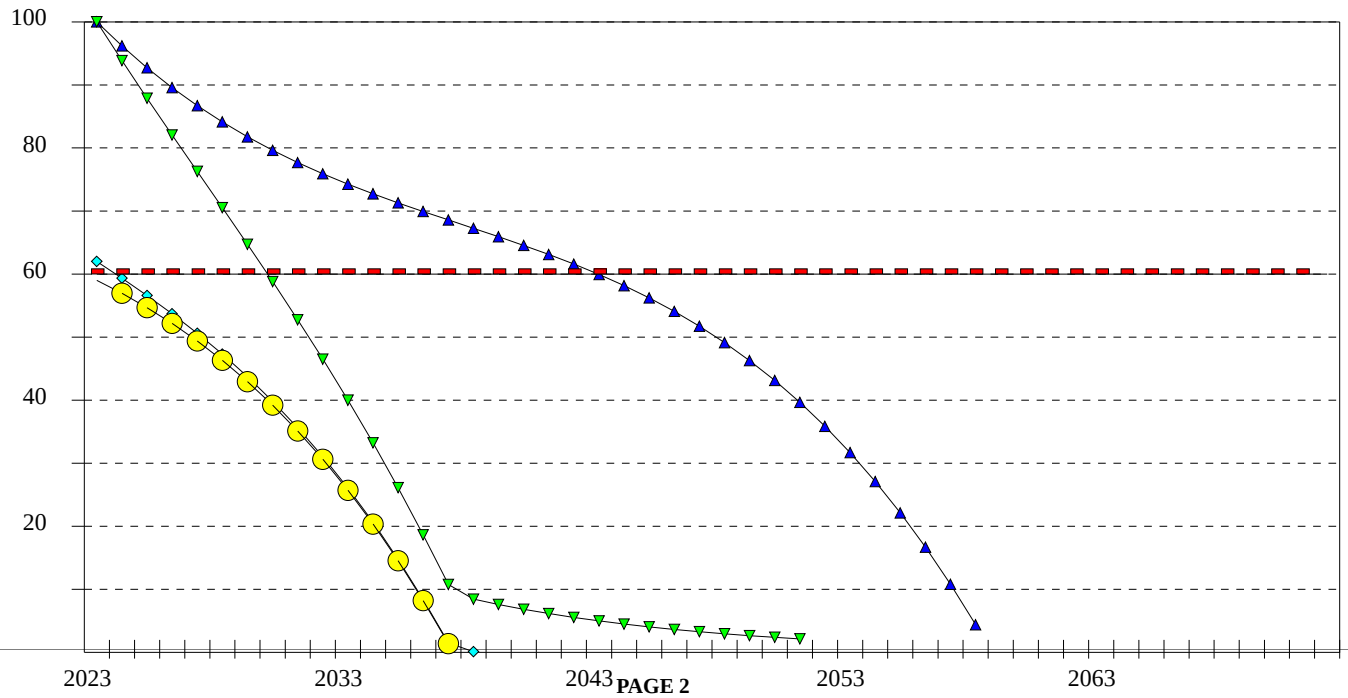
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2023
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 72 SATISFACTORY
ESTIMATED PCI IS: 59 in 2023
NORMAL PCI FOR THIS AGE: 56

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$9,792	20 YEARS
▼	SURFACE TREATMENT	$2,712	7 YEARS
◆	CRACK REPAIR	$711	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 292 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 81
FEATURE AREA: 6,524 **FEATURE'S LOW PCI:** 81
INSPECTED AREA: 5,525 **AVERAGE PCI:** 81 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 82 in 2015

COMMENTS/HISTORY FOR FEATURE 292, TAXIWAY B

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972: 4" P401 / 4" P201/ 10" P154
*
*

DISTRESS QUANTITIES FOR FEATURE 292

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	49	57	L.F.	43
LONG.& TRANS. CRACK	LOW	225	265	L.F.	49.7
WEATHERING	LOW	800	944	S.F.	7.2

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:	64 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	36 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

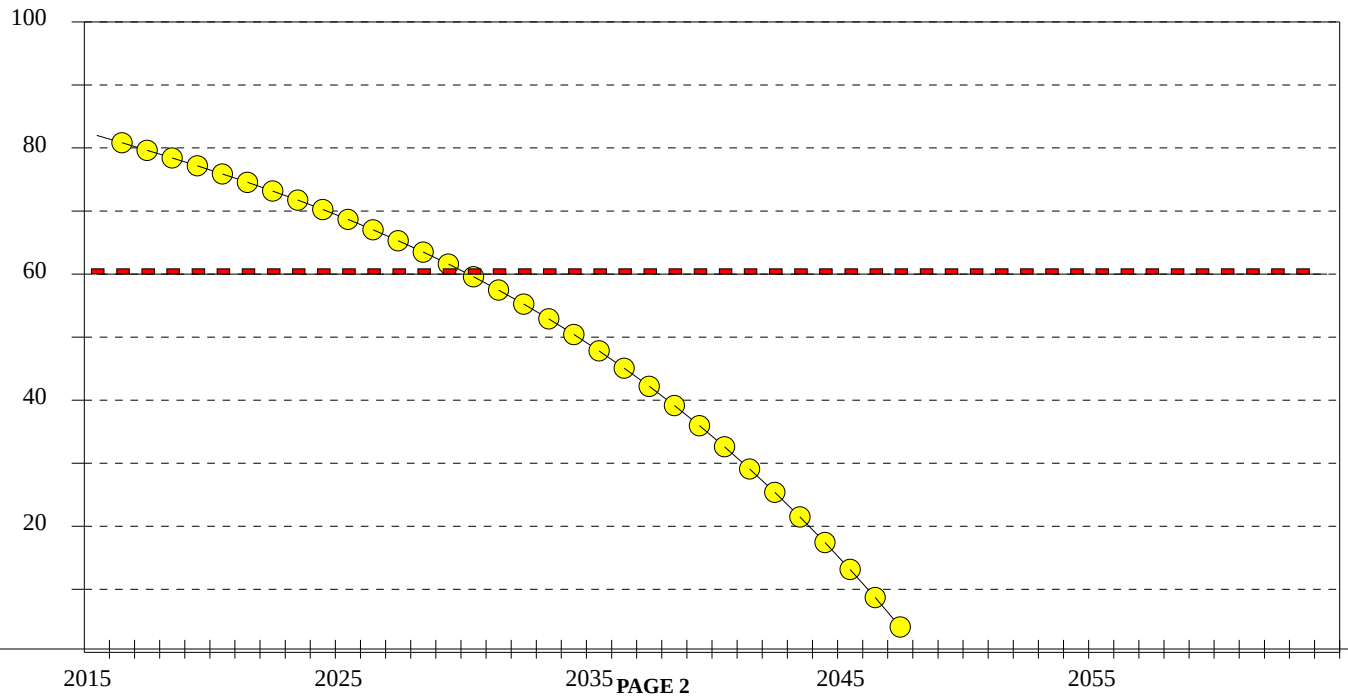
FEATURE: 292 **DESCRIPTION:** TAXIWAY B

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 81 SATISFACTORY
CONSTRUCTION YEAR: 2001 **ESTIMATED PCI IS:** 82 in 2015
MINIMUM SERVICE LEVEL: 60 **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 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 295 **DESCRIPTION:** TAXIWAY B-3

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 72
FEATURE AREA: 9,111 **FEATURE'S LOW PCI:** 68
INSPECTED AREA: 8,350 **AVERAGE PCI:** 70 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2022

COMMENTS/HISTORY FOR FEATURE 295, TAXIWAY B-3

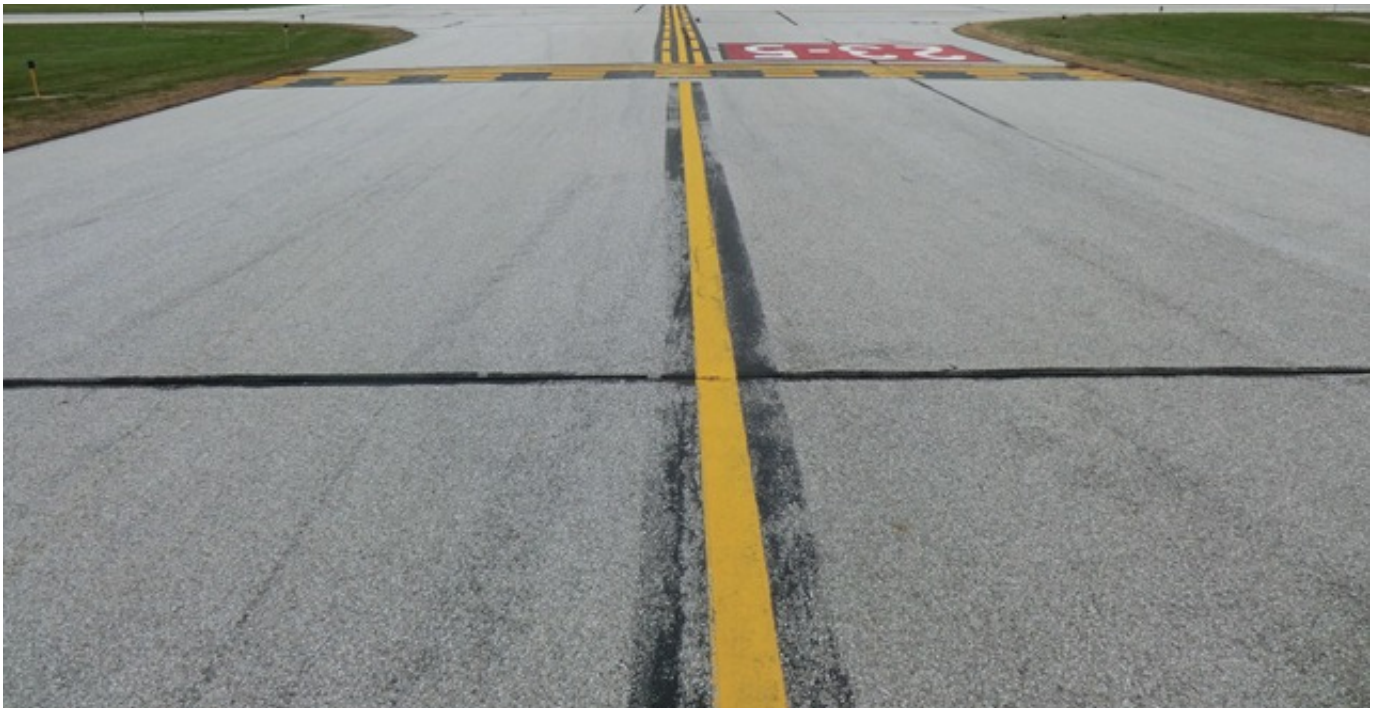
2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
EST. 1972: 3" P401 / 3" P201
EST. 1964: 3" P401 / 9" P208 / 7" P154
*

DISTRESS QUANTITIES FOR FEATURE 295

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	21	22	L.F.	15
LONG.& TRANS. CRACK	LOW	492	536	L.F.	42.4
RAVELING	HIGH	22	24	S.F.	17.4
RAVELING	MED	38	41	S.F.	11.3
WEATHERING	MED	400	436	S.F.	6.9
WEATHERING	LOW	2,200	2,400	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:	53 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	47 %



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 295 **DESCRIPTION:** TAXIWAY B-3

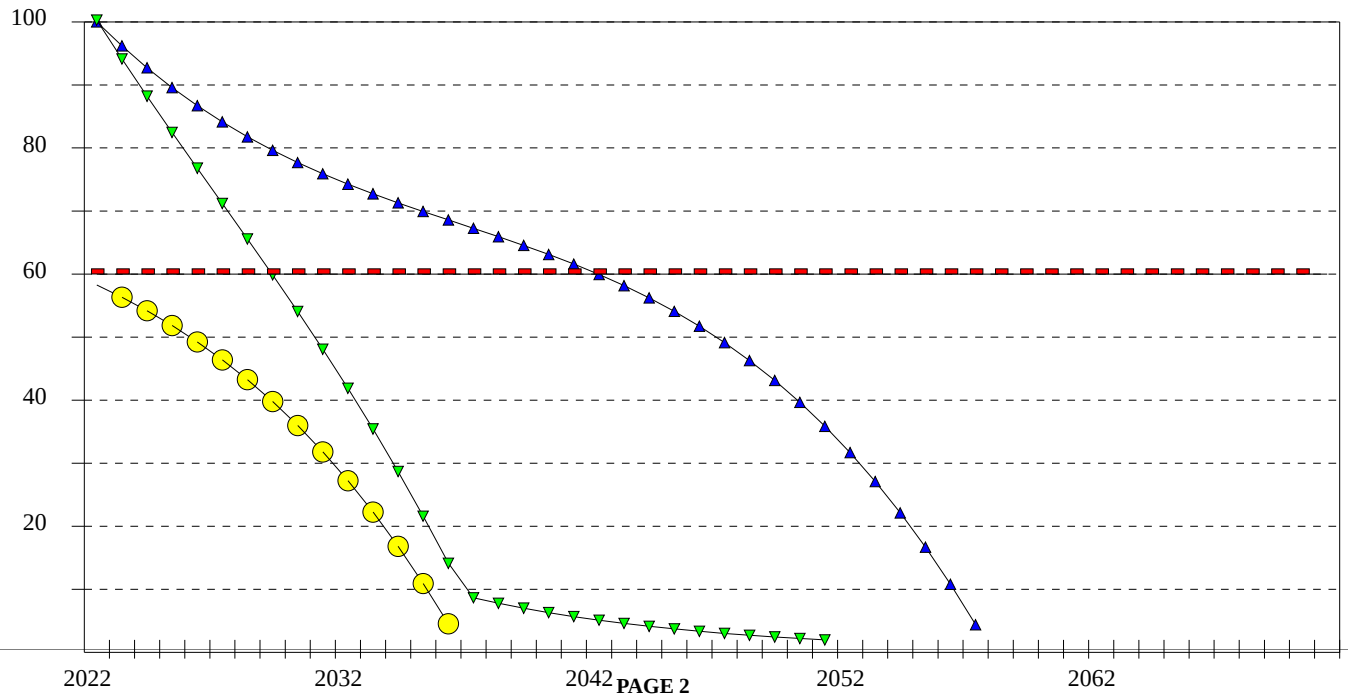
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 70 FAIR
ESTIMATED PCI IS: 58 in 2022
NORMAL PCI FOR THIS AGE: 58

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$13,119	20 YEARS
▼	SURFACE TREATMENT	$3,580	7 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 296 **DESCRIPTION:** TAXIWAY B-3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 61
FEATURE AREA: 2,284 **FEATURE'S LOW PCI:** 61
INSPECTED AREA: 2,200 **AVERAGE PCI:** 61 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2015

COMMENTS/HISTORY FOR FEATURE 296, TAXIWAY B-3

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
EST. 1972: 3" P401 / 3" P201
EST. 1964: 3" P401 / 9" P208 / 7" P154
*

DISTRESS QUANTITIES FOR FEATURE 296

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
DEPRESSION	MED	6	6	S.F.	16.2
LONG.& TRANS. CRACK	MED	16	16	L.F.	18.9
LONG.& TRANS. CRACK	LOW	189	196	L.F.	42.9
RAVELING	MED	15	15	S.F.	15.4
WEATHERING	LOW	750	778	S.F.	6.3

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:	65 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	35 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

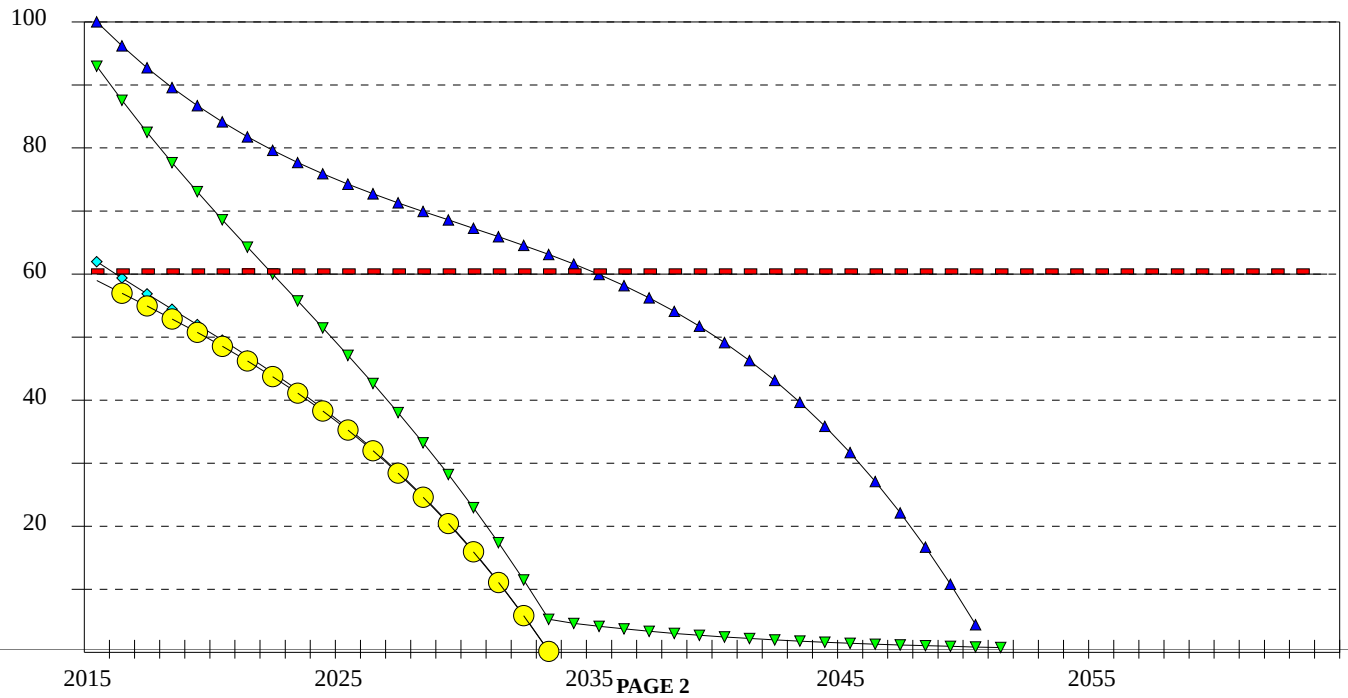
FEATURE: 296 **DESCRIPTION:** TAXIWAY B-3

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 61 FAIR
CONSTRUCTION YEAR: 2001 **ESTIMATED PCI IS:** 59 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 68

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$3,288	20 YEARS
▼	SURFACE TREATMENT	$910	8 YEARS
◆	CRACK REPAIR	$262	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 301 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 95
FEATURE AREA: 58,939 **FEATURE'S LOW PCI:** 89
INSPECTED AREA: 29,800 **AVERAGE PCI:** 91 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 86 in 2015

COMMENTS/HISTORY FOR FEATURE 301, TAXIWAY A

2005: AC Overlay
1972: 3" P401
1964: 4" P401 / 6" P201 / 10" P154
*

DISTRESS QUANTITIES FOR FEATURE 301

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	LOW	809	1,600	L.F.	86.4
WEATHERING	LOW	4,000	7,911	S.F.	13.5

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

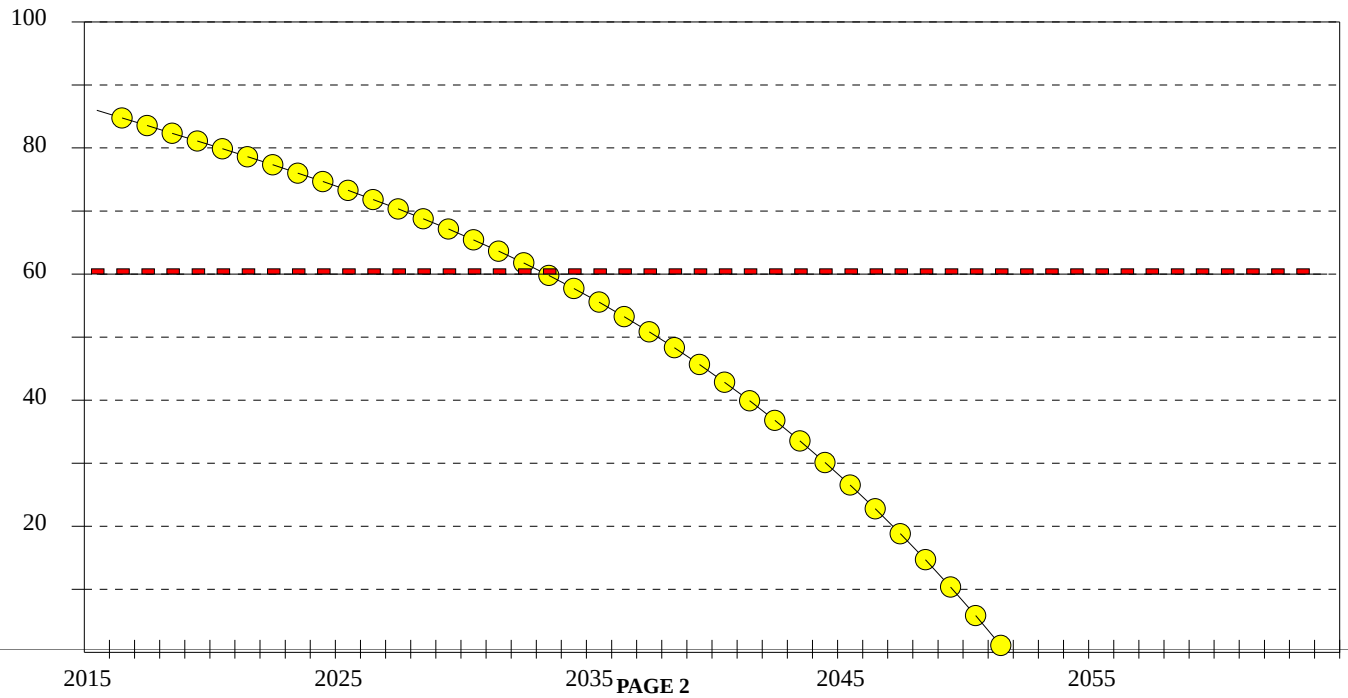
FEATURE: 301 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 91 GOOD
CONSTRUCTION YEAR: 2005 **ESTIMATED PCI IS:** 86 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 86

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 305 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 63
FEATURE AREA: 12,000 **FEATURE'S LOW PCI:** 49
INSPECTED AREA: 8,750 **AVERAGE PCI:** 56 FAIR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 54 in 2015

COMMENTS/HISTORY FOR FEATURE 305, TAXIWAY A

1996 1.5" P401
1972 3" P401
1964 4" P401 ON 6" P201
10" P154

DISTRESS QUANTITIES FOR FEATURE 305

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	46	63	S.F.	37.2
DEPRESSION	LOW	16	21	S.F.	4.2
LONG.& TRANS. CRACK	MED	67	91	L.F.	14.5
LONG.& TRANS. CRACK	LOW	817	1,120	L.F.	34.3
WEATHERING	MED	220	301	S.F.	2.5
WEATHERING	LOW	6,200	8,502	S.F.	6.9

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: 40 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 23 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

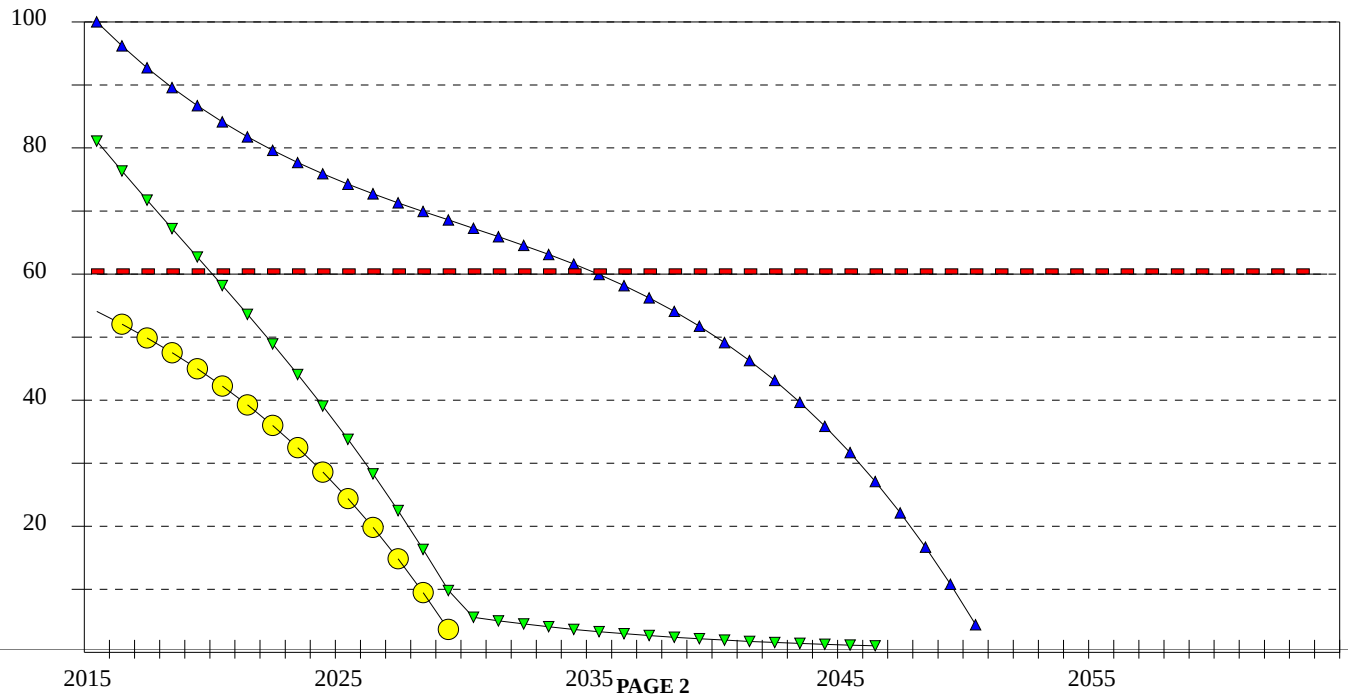
FEATURE: 305 **DESCRIPTION:** TAXIWAY A

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 56 FAIR
CONSTRUCTION YEAR: 1996 **ESTIMATED PCI IS:** 54 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 61

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$17,280	20 YEARS
▼	SURFACE TREATMENT	$4,792	5 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 310 **DESCRIPTION:** TAXIWAY A-2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 88
FEATURE AREA: 38,000 **FEATURE'S LOW PCI:** 83
INSPECTED AREA: 19,500 **AVERAGE PCI:** 86 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 85 in 2015

COMMENTS/HISTORY FOR FEATURE 310, TAXIWAY A-2

2005" AC Overlay
1996: 1.5" P401
1972: 3" P401 / 9" P208 / 7" P154
*

DISTRESS QUANTITIES FOR FEATURE 310

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	62	120	L.F.	40.7
LONG.& TRANS. CRACK	LOW	496	966	L.F.	52.3
OIL SPILLAGE	N/A	9	17	S.F.	4.3
WEATHERING	LOW	600	1,169	S.F.	2.6

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:	63 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	37 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

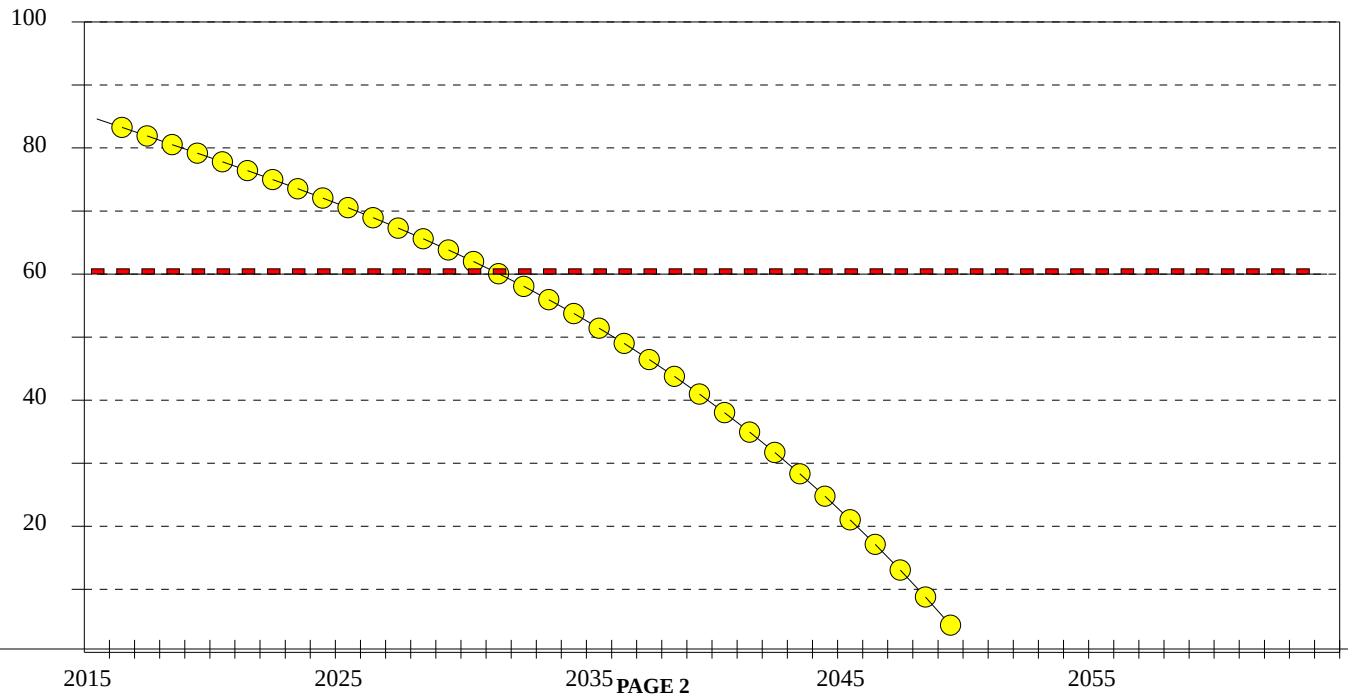
FEATURE: 310 **DESCRIPTION:** TAXIWAY A-2

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 86 GOOD
CONSTRUCTION YEAR: 2005 **ESTIMATED PCI IS:** 85 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 86

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 405 **DESCRIPTION:** TAXIWAY D

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 72
FEATURE AREA: 14,193 **FEATURE'S LOW PCI:** 70
INSPECTED AREA: 8,000 **AVERAGE PCI:** 71 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2022

COMMENTS/HISTORY FOR FEATURE 405, TAXIWAY D

2002: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
Existing Pavement
*
*

DISTRESS QUANTITIES FOR FEATURE 405

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	63	111	L.F.	27.1
LONG.& TRANS. CRACK	LOW	415	736	L.F.	40.9
WEATHERING	MED	900	1,596	S.F.	17.1
WEATHERING	LOW	7,100	12,596	S.F.	14.7

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:	56 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	44 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 405 **DESCRIPTION:** TAXIWAY D

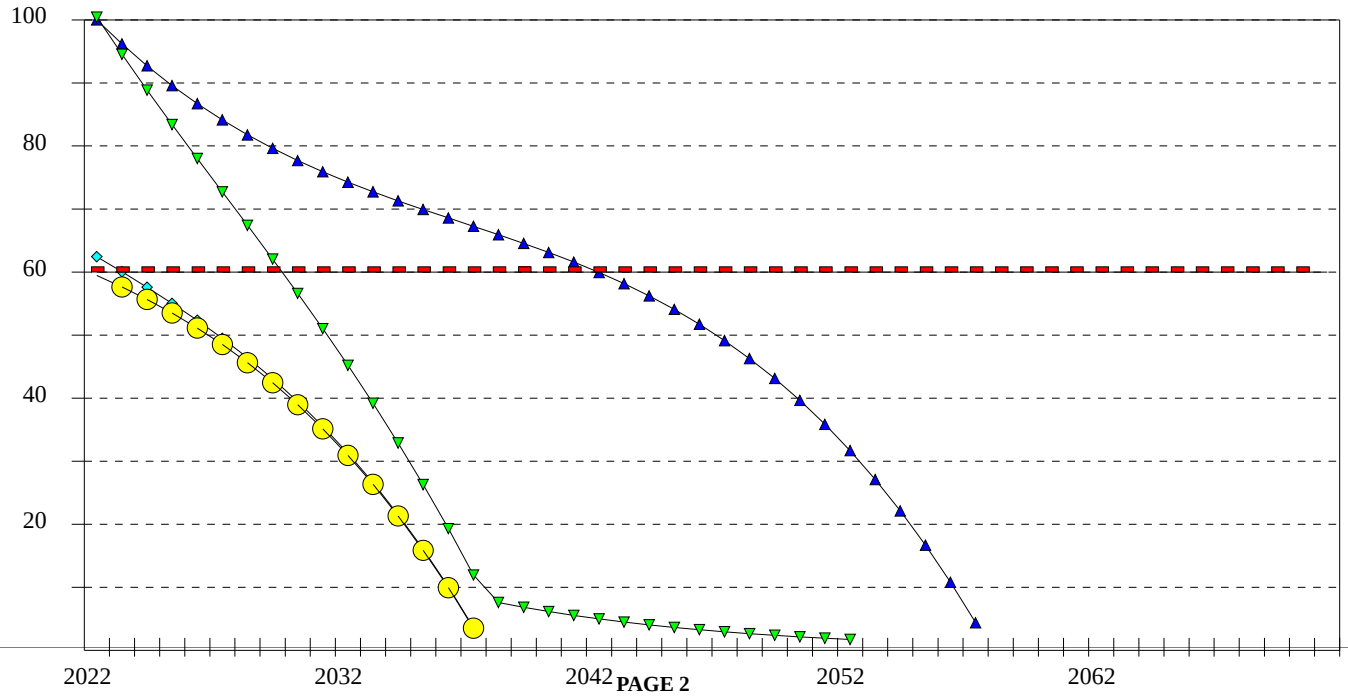
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2022
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2002
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 71 SATISFACTORY
ESTIMATED PCI IS: 59 in 2022
NORMAL PCI FOR THIS AGE: 59

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$20,437	20 YEARS
▼	SURFACE TREATMENT	$5,672	8 YEARS
◆	CRACK REPAIR	$1,050	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 410 **DESCRIPTION:** TAXIWAY D

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 75
FEATURE AREA: 28,323 **FEATURE'S LOW PCI:** 69
INSPECTED AREA: 14,800 **AVERAGE PCI:** 73 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2024

COMMENTS/HISTORY FOR FEATURE 410, TAXIWAY D

2002: 1.5" P401 (1/2" Agg) / P603 / 2.5" P401 (3/4" Agg)
/ Remove Pulverized AC Material
/ Existing Pavement
*

DISTRESS QUANTITIES FOR FEATURE 410

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	183	350	L.F.	34
LONG.& TRANS. CRACK	LOW	647	1,238	L.F.	39
WEATHERING	MED	1,050	2,009	S.F.	13.5
WEATHERING	LOW	9,000	17,223	S.F.	13.3

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:	58 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	42 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

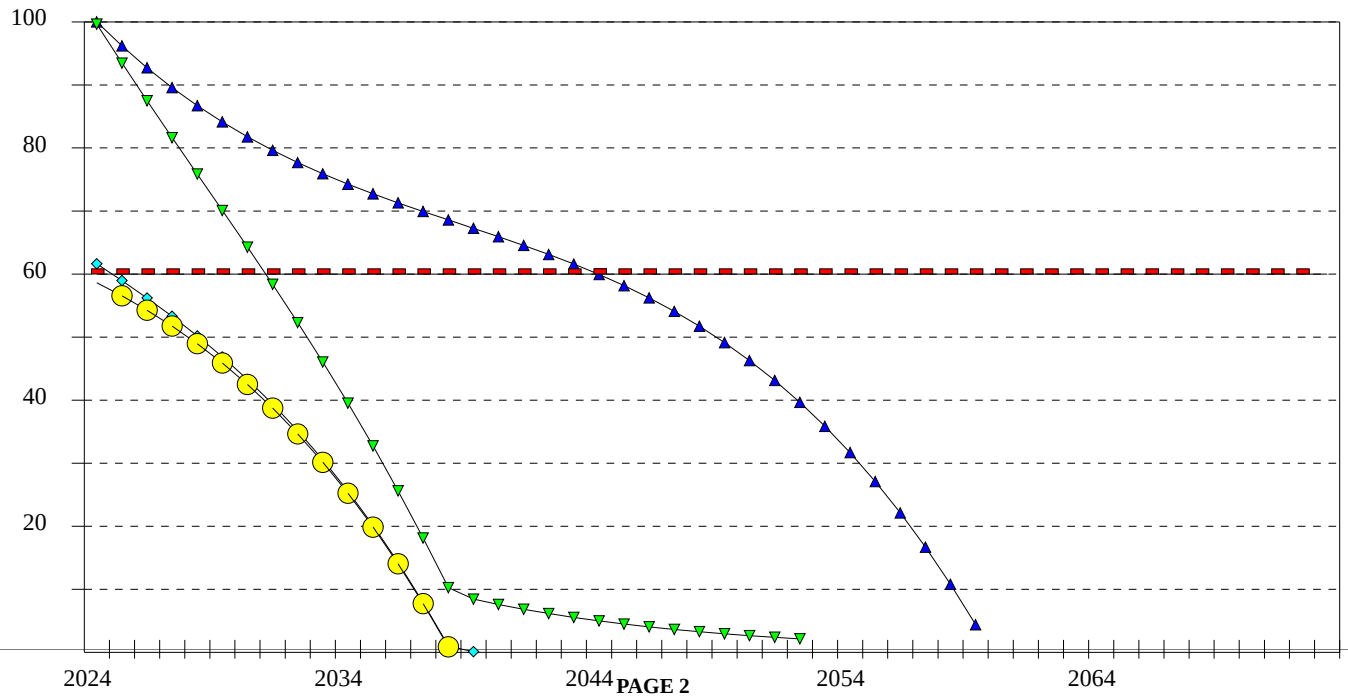
FEATURE: 410 **DESCRIPTION:** TAXIWAY D

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024
INSPECTION DATE: 10-29-14
PAVEMENT TYPE: AC OVERLAY
AVERAGE PCI AT INSPECTION: 73 SATISFACTORY
CONSTRUCTION YEAR: 2002
ESTIMATED PCI IS: 59 in 2024
MINIMUM SERVICE LEVEL: 60
NORMAL PCI FOR THIS AGE: 56

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$40,785	20 YEARS
▼	SURFACE TREATMENT	$11,479	7 YEARS
◆	CRACK REPAIR	$1,969	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 505 **DESCRIPTION:** TAXIWAY E

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 94
FEATURE AREA: 25,850 **FEATURE'S LOW PCI:** 89
INSPECTED AREA: 10,235 **AVERAGE PCI:** 93 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 91 in 2015

COMMENTS/HISTORY FOR FEATURE 505, TAXIWAY E

1990 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 505

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	MED	120	303	SLABS	81.6
JOINT SEAL DAMAGE	LOW	20	50	SLABS	3.8
SPALLING-JOINTS	MED	1	2	SLABS	7.2
SPALLING-CORNERS	MED	1	2	SLABS	7.1

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

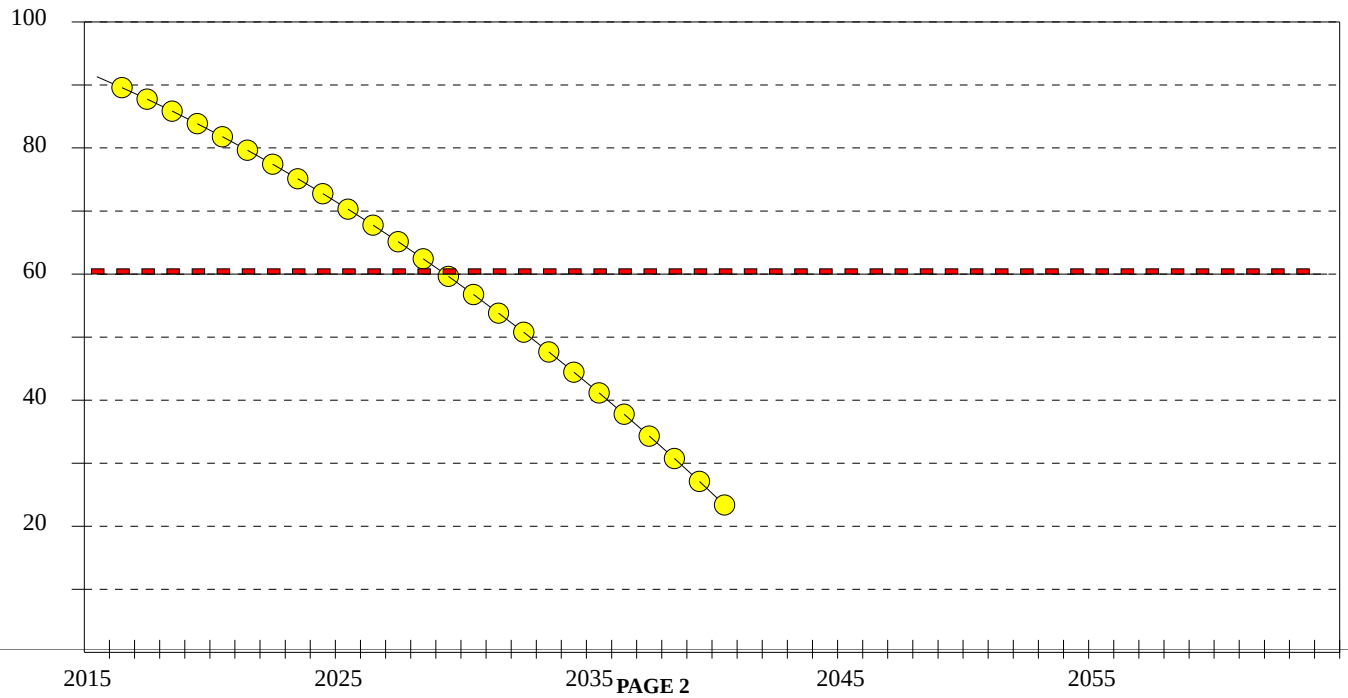
FEATURE: 505 **DESCRIPTION:** TAXIWAY E

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 93 GOOD
CONSTRUCTION YEAR: 1990 **ESTIMATED PCI IS:** 91 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 67

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 2015 **DESCRIPTION:** TEES

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC + **FEATURE'S HIGH PCI:** 85
FEATURE AREA: 18,660 **FEATURE'S LOW PCI:** 79
INSPECTED AREA: 8,000 **AVERAGE PCI:** 82 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 81 in 2015

COMMENTS/HISTORY FOR FEATURE 2015, TEES

2001 AC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 2015

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	35	81	L.F.	23.3
LONG.& TRANS. CRACK	LOW	316	737	L.F.	61.1
WEATHERING	LOW	2,400	5,598	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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

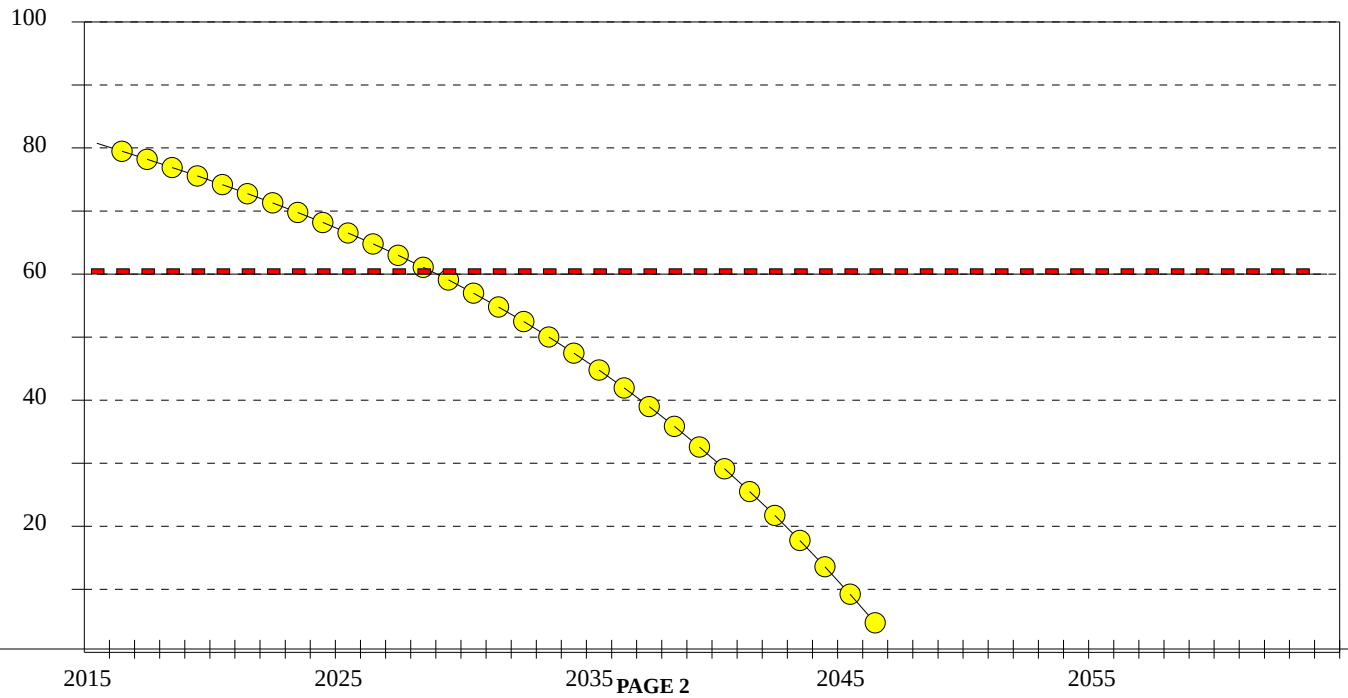
FEATURE: 2015 **DESCRIPTION:** TEES

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC + **AVERAGE PCI AT INSPECTION:** 82 SATISFACTORY
CONSTRUCTION YEAR: 2001 **ESTIMATED PCI IS:** 81 in 2015
MINIMUM SERVICE LEVEL: 60 **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 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3005 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 170,716 **FEATURE'S LOW PCI:** 63
INSPECTED AREA: 56,000 **AVERAGE PCI:** 85 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 83 in 2015

COMMENTS/HISTORY FOR FEATURE 3005, TERMINAL RAMP

1995 PCC 10" P501
12" P201
COMPACTED SUBGRADE
*

DISTRESS QUANTITIES FOR FEATURE 3005

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG/TRAN/DIAG CRK.	HIGH	1	3	SLABS	13
LONG/TRAN/DIAG CRK.	MED	6	18	SLABS	40.5
LONG/TRAN/DIAG CRK.	LOW	6	18	SLABS	19.4
JOINT SEAL DAMAGE	LOW	20	61	SLABS	1.6
PATCH>5 SF/UTIL.CUT	LOW	2	6	SLABS	4.6
SETTLEMENT/FAULT	LOW	2	6	SLABS	6.8
SHRINKAGE CRACKS	N/A	3	9	SLABS	2.1
SPALLING-JOINTS	MED	2	6	SLABS	6.2
SPALLING-JOINTS	LOW	4	12	SLABS	5.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 38 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 5 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 56 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

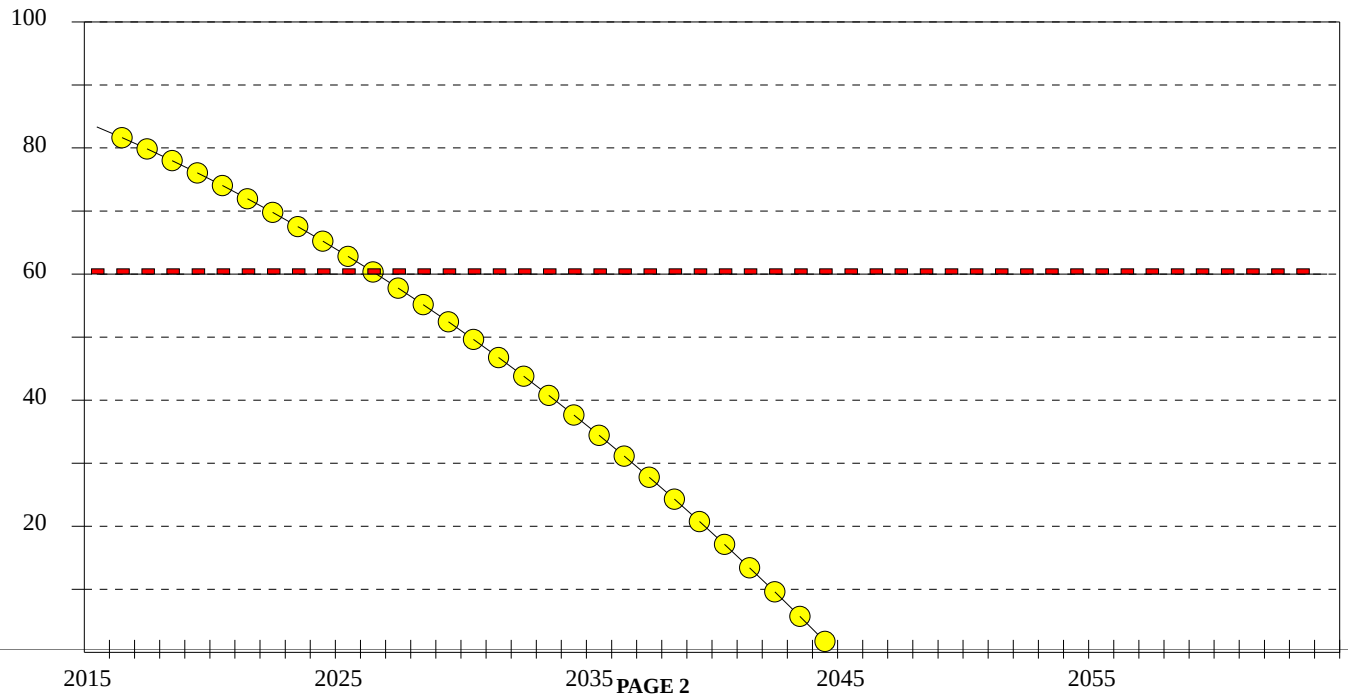
FEATURE: 3005 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 85 SATISFACTORY
CONSTRUCTION YEAR: 1995 **ESTIMATED PCI IS:** 83 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 77

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3010 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 188,801 **FEATURE'S LOW PCI:** 80
INSPECTED AREA: 40,225 **AVERAGE PCI:** 90 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 88 in 2015

COMMENTS/HISTORY FOR FEATURE 3010, TERMINAL RAMP

1990 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3010

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	MED	432	2,027	SLABS	64.4
SPALLING-JOINTS	HIGH	1	4	SLABS	6
SPALLING-JOINTS	MED	6	28	SLABS	9.4
SPALLING-CORNERS	HIGH	4	18	SLABS	8.4
SPALLING-CORNERS	MED	7	32	SLABS	10.5
SPALLING-CORNERS	LOW	1	4	SLABS	.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 17 %
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: 55 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

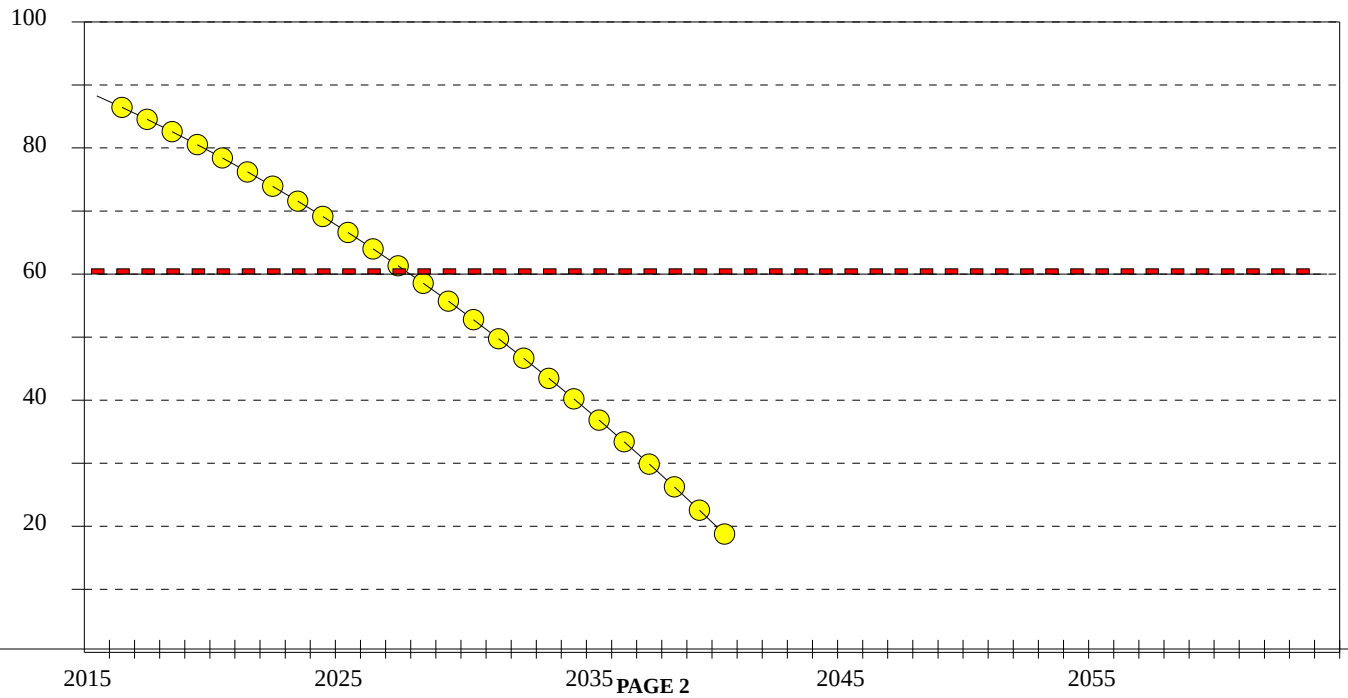
FEATURE: 3010 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 90 GOOD
CONSTRUCTION YEAR: 1990 **ESTIMATED PCI IS:** 88 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 67

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3015 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 12,750 **FEATURE'S LOW PCI:** 100
INSPECTED AREA: 12,750 **AVERAGE PCI:** 100 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 99 in 2015

COMMENTS/HISTORY FOR FEATURE 3015, TERMINAL RAMP

2004 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3015

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS

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:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	0 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

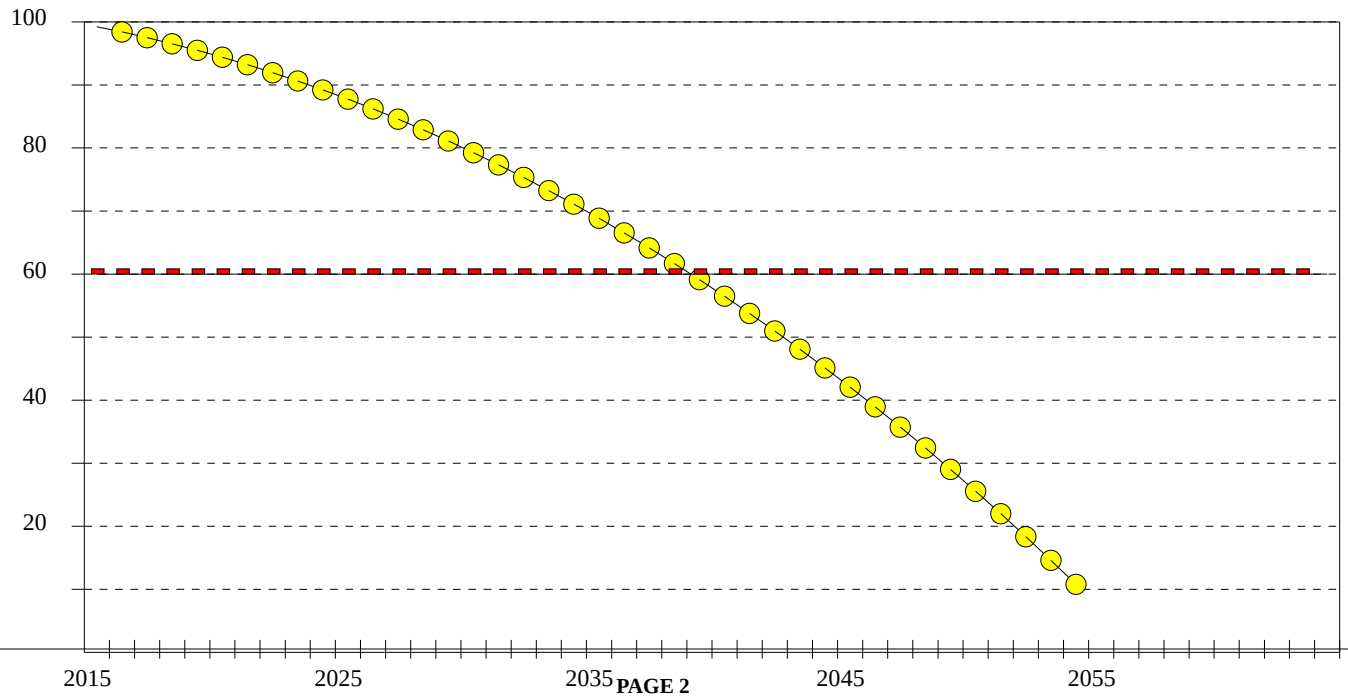
FEATURE: 3015 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 100 GOOD
CONSTRUCTION YEAR: 2004 **ESTIMATED PCI IS:** 99 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 90

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3020 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 4,650 **FEATURE'S LOW PCI:** 100
INSPECTED AREA: 4,650 **AVERAGE PCI:** 100 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 99 in 2015

COMMENTS/HISTORY FOR FEATURE 3020, TERMINAL RAMP

2005 PCC est
EST. 1964: PCC
*
*

DISTRESS QUANTITIES FOR FEATURE 3020

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS

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:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	0 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

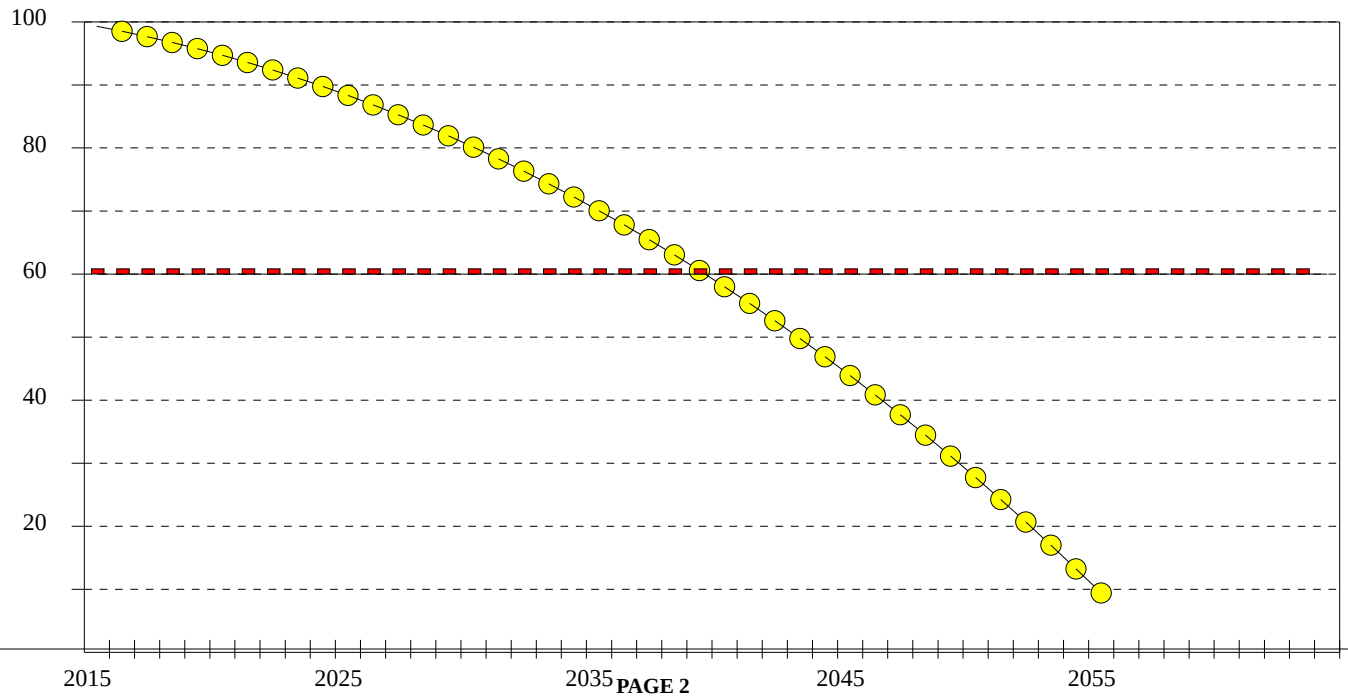
FEATURE: 3020 **DESCRIPTION:** TERMINAL RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 100 GOOD
CONSTRUCTION YEAR: 2005 **ESTIMATED PCI IS:** 99 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 92

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3025 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 8,600 **FEATURE'S LOW PCI:** 100
INSPECTED AREA: 8,600 **AVERAGE PCI:** 100 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 99 in 2015

COMMENTS/HISTORY FOR FEATURE 3025, RAMP

2007 9" P-501/ 6" P-209/ COMP SUBGRADE
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3025

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
PATCH<5 SF	LOW	2	2	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:	67 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	33 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

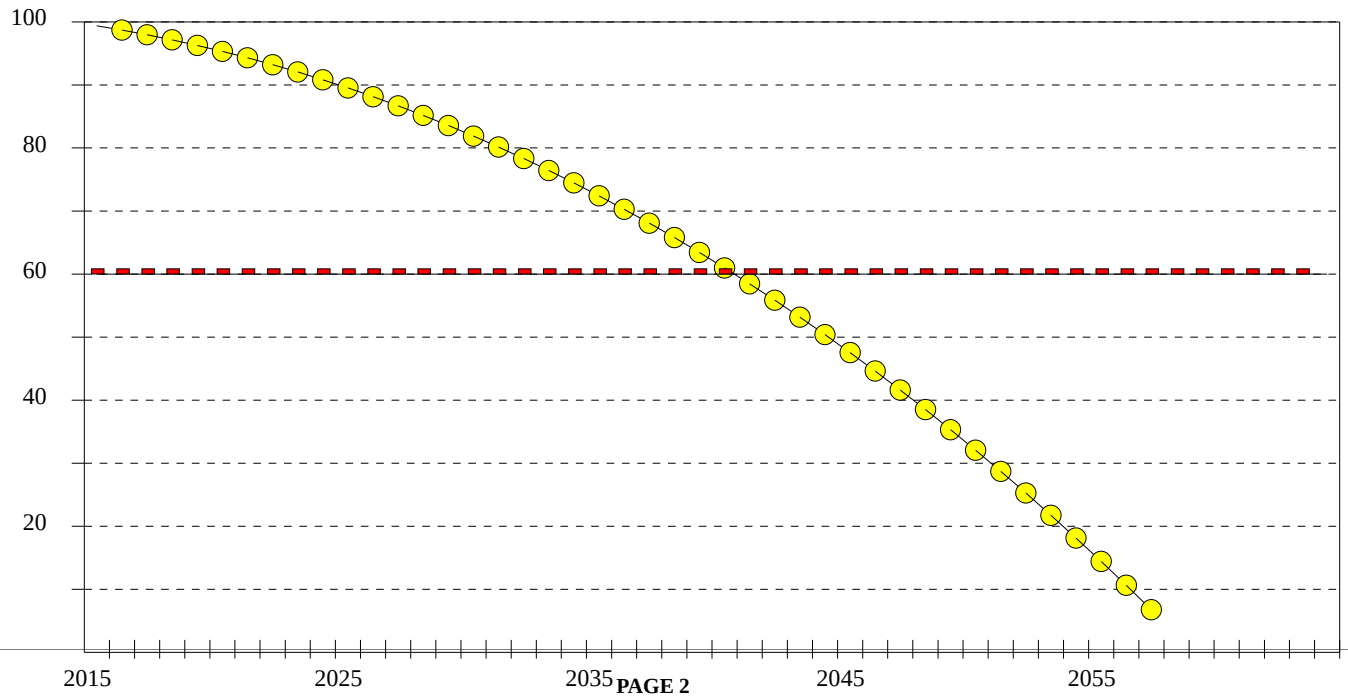
FEATURE: 3025 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 100 GOOD
CONSTRUCTION YEAR: 2007 **ESTIMATED PCI IS:** 99 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 94

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3030 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC **FEATURE'S HIGH PCI:** 22
FEATURE AREA: 26,678 **FEATURE'S LOW PCI:** 11
INSPECTED AREA: 15,000 **AVERAGE PCI:** 15 SERIOUS
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 11 in 2015

COMMENTS/HISTORY FOR FEATURE 3030, RAMP

1989 AC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3030

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	750	1,333	S.F.	26.2
BLOCK CRACKING	HIGH	1,000	1,778	S.F.	21
BLOCK CRACKING	MED	13,250	23,565	S.F.	30.5
DEPRESSION	LOW	40	71	S.F.	.9
OIL SPILLAGE	N/A	8	14	S.F.	.3
RAVELING	MED	1,500	2,667	S.F.	12
RAVELING	LOW	3,000	5,335	S.F.	8
SWELL	LOW	50	88	S.F.	.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 26 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 8 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 65 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

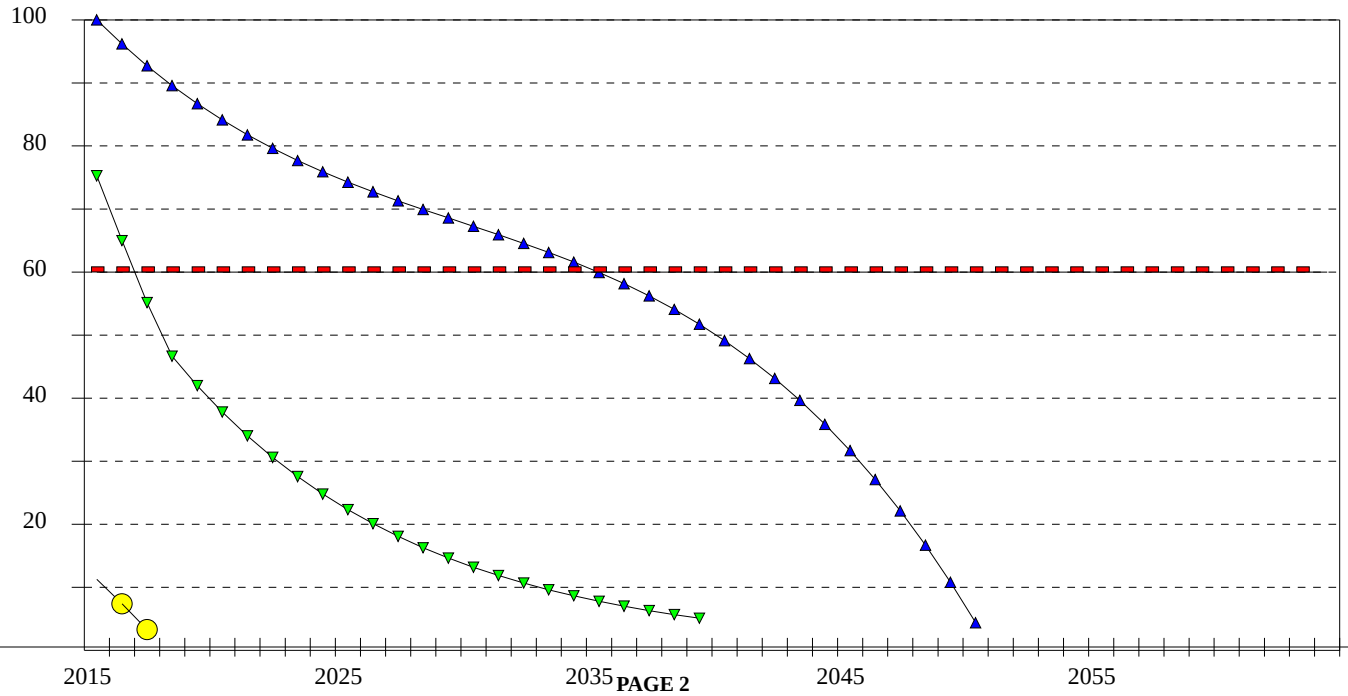
FEATURE: 3030 **DESCRIPTION:** RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC **AVERAGE PCI AT INSPECTION:** 15 SERIOUS
CONSTRUCTION YEAR: 1989 **ESTIMATED PCI IS:** 11 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 50

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	STRUCTURAL OVERLAY	$60,292	20 YEARS
▼	SURFACE TREATMENT	$29,259	2 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3105 **DESCRIPTION:** TAXILANE

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC **FEATURE'S HIGH PCI:** 67
FEATURE AREA: 34,400 **FEATURE'S LOW PCI:** 27
INSPECTED AREA: 14,750 **AVERAGE PCI:** 44 POOR
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 40 in 2015

COMMENTS/HISTORY FOR FEATURE 3105, TAXILANE

2001 AC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3105

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	680	1,585	S.F.	49.3
DEPRESSION	MED	40	93	S.F.	5.6
LONG.& TRANS. CRACK	HIGH	5	11	L.F.	2.3
LONG.& TRANS. CRACK	MED	546	1,273	L.F.	26.8
LONG.& TRANS. CRACK	LOW	502	1,170	L.F.	13.1
WEATHERING	LOW	2,600	6,063	S.F.	2.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 49 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 35 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 16 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

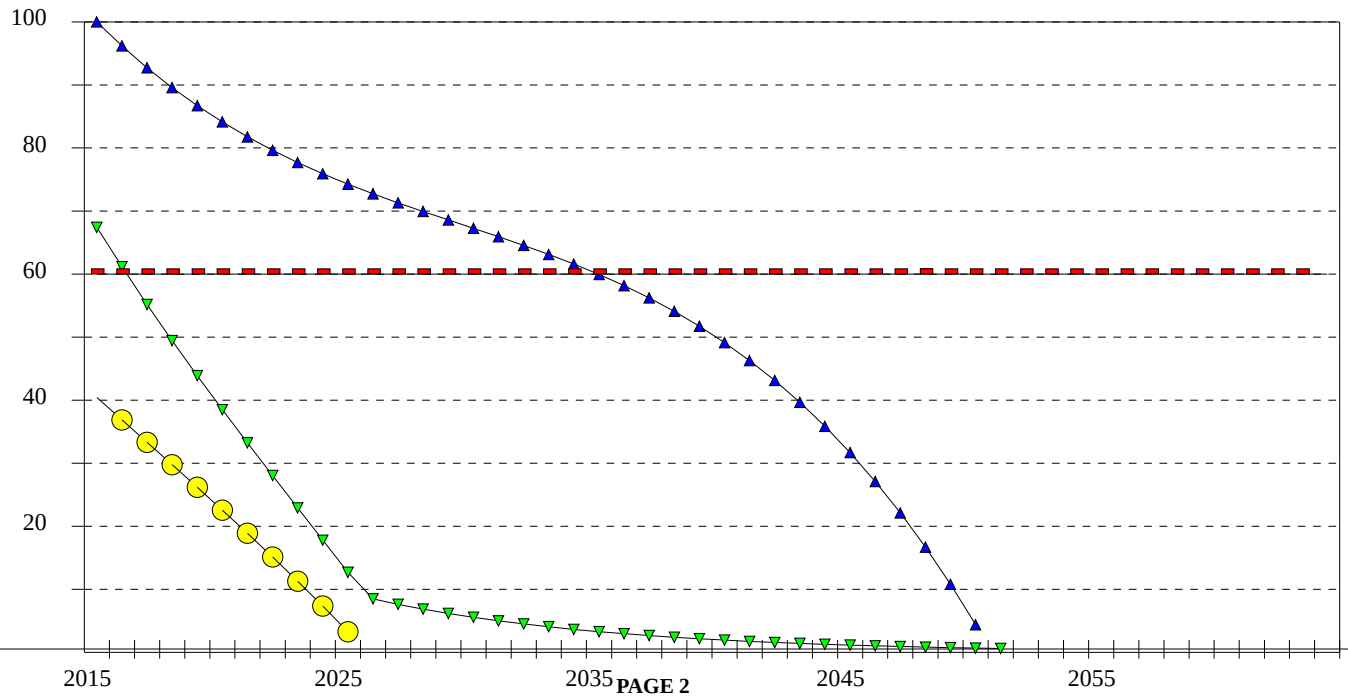
FEATURE: 3105 **DESCRIPTION:** TAXILANE

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC **AVERAGE PCI AT INSPECTION:** 44 POOR
CONSTRUCTION YEAR: 2001 **ESTIMATED PCI IS:** 40 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 70

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	STRUCTURAL OVERLAY	$77,744	20 YEARS
▼	SURFACE TREATMENT	$15,008	2 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3110 **DESCRIPTION:** TEE HANGARS

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC **FEATURE'S HIGH PCI:** 82
FEATURE AREA: 29,424 **FEATURE'S LOW PCI:** 76
INSPECTED AREA: 10,000 **AVERAGE PCI:** 79 SATISFACTORY
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 59 in 2024

COMMENTS/HISTORY FOR FEATURE 3110, TEE HANGARS

2007 mill 2" and overlay with 1.5" p-401 .5 max agg/
2.5" p-401 .75 max agg/ existing lime treated subgrade
and p-209 as needed
*

DISTRESS QUANTITIES FOR FEATURE 3110

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
LONG.& TRANS. CRACK	MED	20	58	L.F.	19.7
LONG.& TRANS. CRACK	LOW	644	1,894	L.F.	80.2

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3110 **DESCRIPTION:** TEE HANGARS

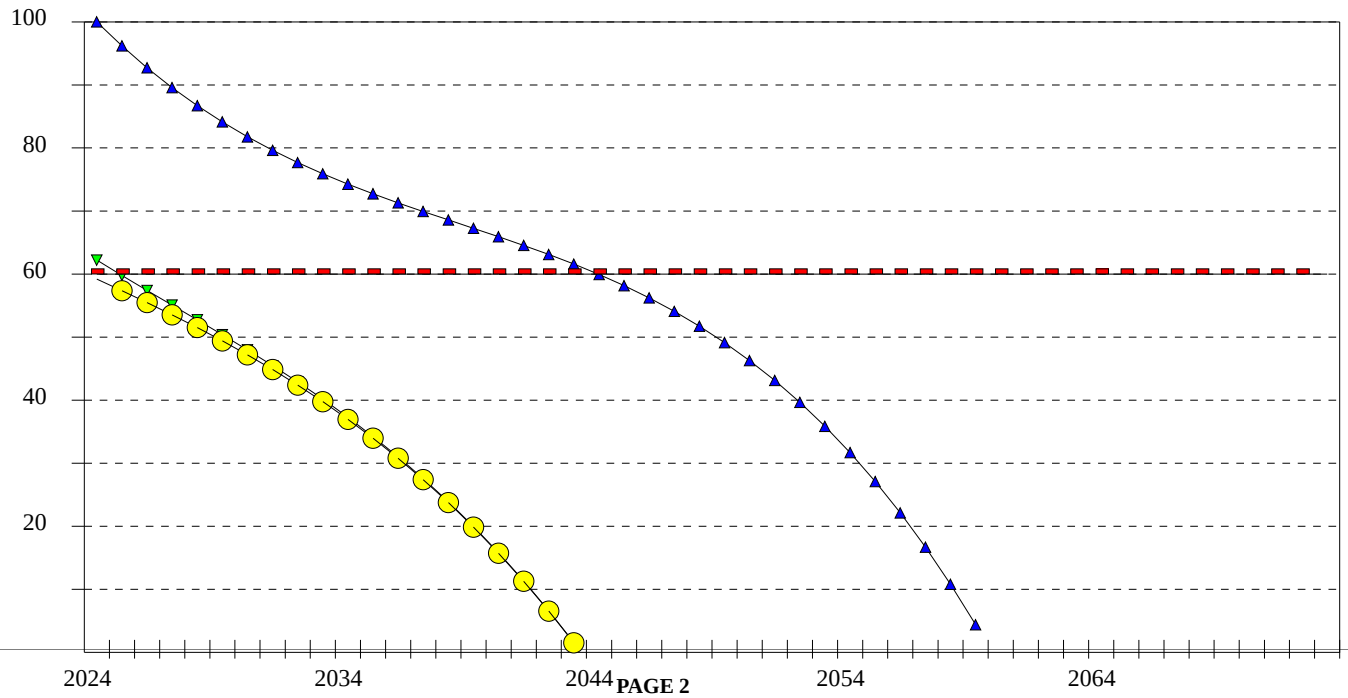
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024
PAVEMENT TYPE: AC
CONSTRUCTION YEAR: 2007
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 79 SATISFACTORY
ESTIMATED PCI IS: 59 in 2024
NORMAL PCI FOR THIS AGE: 66

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$42,370	20 YEARS
▼	CRACK REPAIR	$2,420	1 YEAR
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3115 **DESCRIPTION:** GA RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 29,655 **FEATURE'S LOW PCI:** 91
INSPECTED AREA: 11,400 **AVERAGE PCI:** 98 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 97 in 2015

COMMENTS/HISTORY FOR FEATURE 3115, GA RAMP

2007 PCC 9" P-501/ 6" P-209/ COMP SUBGRADE est
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*
*

DISTRESS QUANTITIES FOR FEATURE 3115

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
SPALLING-CORNERS	MED	1	2	SLABS	46.9
SPALLING-CORNERS	LOW	2	5	SLABS	53

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 33 %
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: 33 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

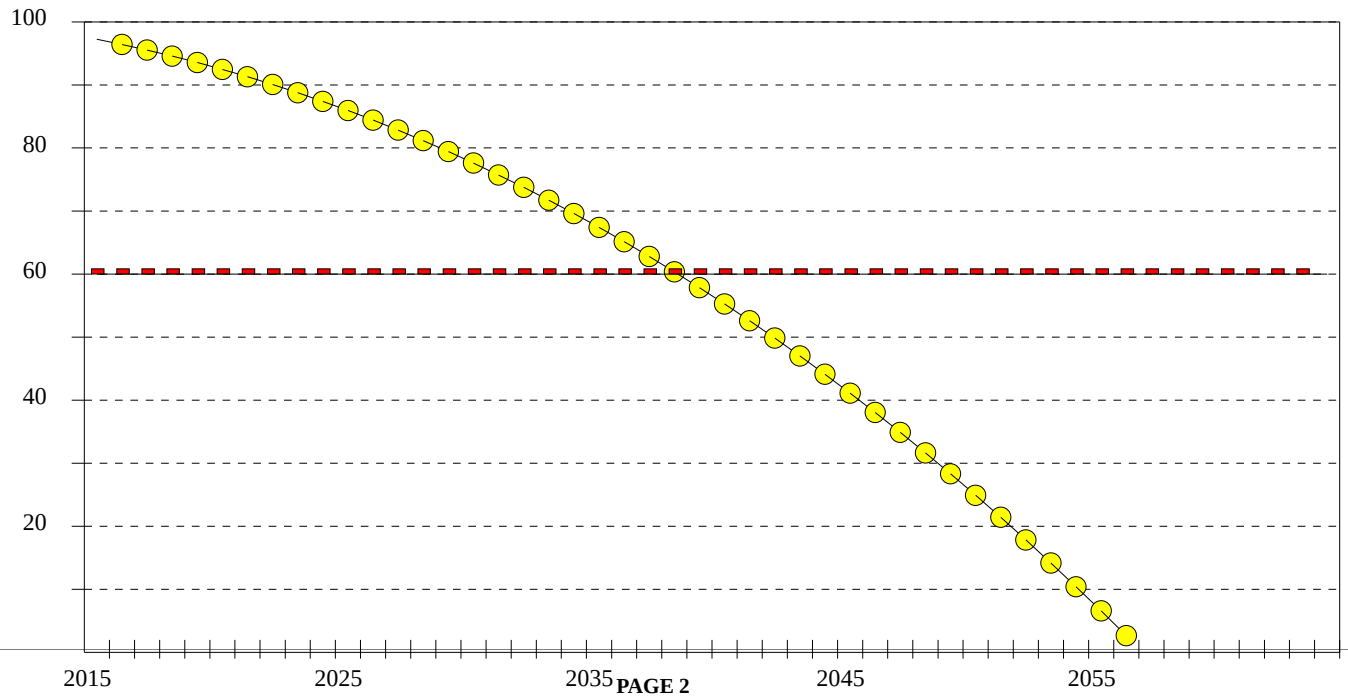
FEATURE: 3115 **DESCRIPTION:** GA RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 98 GOOD
CONSTRUCTION YEAR: 2007 **ESTIMATED PCI IS:** 97 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 94

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3120 **DESCRIPTION:** GA RAMP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC
FEATURE AREA: 7,915
INSPECTED AREA: 5,625
MINIMUM SERVICE LEVEL: 60

FEATURE'S HIGH PCI: 88
FEATURE'S LOW PCI: 79
AVERAGE PCI: 85 SATISFACTORY
ESTIMATED PCI IS: 58 in 2024

COMMENTS/HISTORY FOR FEATURE 3120, GA RAMP

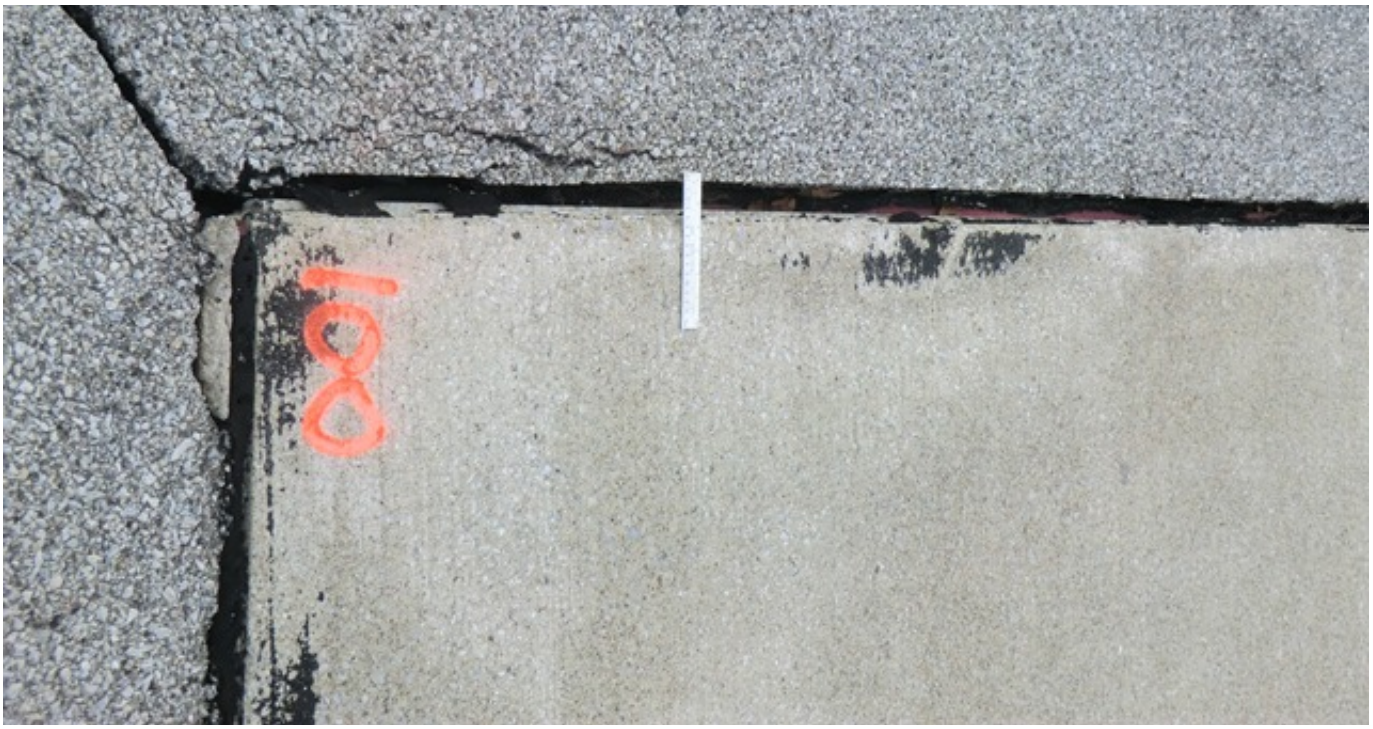
1980 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3120

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	LOW	40	56	SLABS	8
SETTLEMENT/FAULT	LOW	6	8	SLABS	49.2
SPALLING-JOINTS	MED	4	5	SLABS	28.6
SPALLING-JOINTS	LOW	3	4	SLABS	9.5
SPALLING-CORNERS	LOW	1	1	SLABS	4.4

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	60 %
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:	20 %



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3120 **DESCRIPTION:** GA RAMP

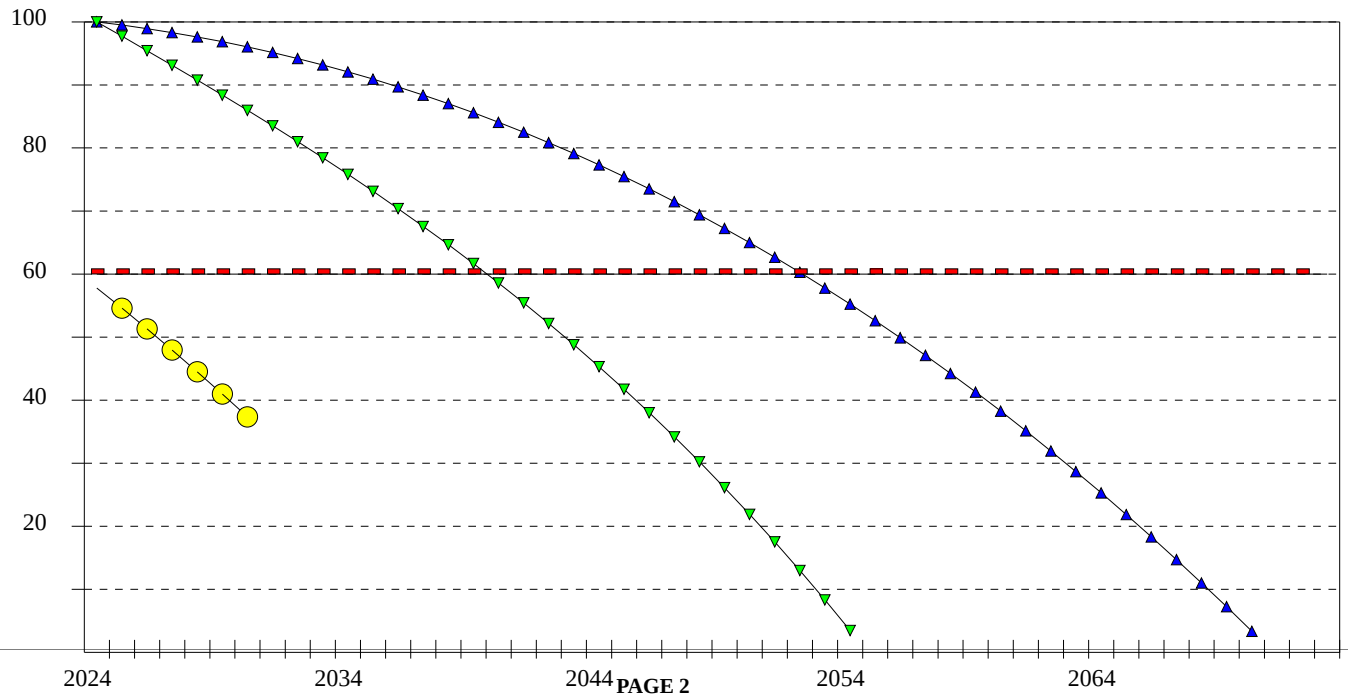
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2024
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1980
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 85 SATISFACTORY
ESTIMATED PCI IS: 58 in 2024
NORMAL PCI FOR THIS AGE: 11

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RECONSTRUCTION	$102,103	29 YEARS
▼	REPAIR AND/OR OVERLAY	$43,611	16 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3205 **DESCRIPTION:** FBO RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 98
FEATURE AREA: 118,596 **FEATURE'S LOW PCI:** 80
INSPECTED AREA: 22,500 **AVERAGE PCI:** 89 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 87 in 2015

COMMENTS/HISTORY FOR FEATURE 3205, FBO RAMP

1990 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3205

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	MED	220	1,159	SLABS	57.7
JOINT SEAL DAMAGE	LOW	20	105	SLABS	1.5
SHRINKAGE CRACKS	N/A	2	10	SLABS	1.2
SPALLING-JOINTS	MED	1	5	SLABS	2.8
SPALLING-JOINTS	LOW	1	5	SLABS	1.2
SPALLING-CORNERS	HIGH	4	21	SLABS	14.4
SPALLING-CORNERS	MED	3	15	SLABS	8.2
SPALLING-CORNERS	LOW	8	42	SLABS	12.7

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 14 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 32 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 53 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

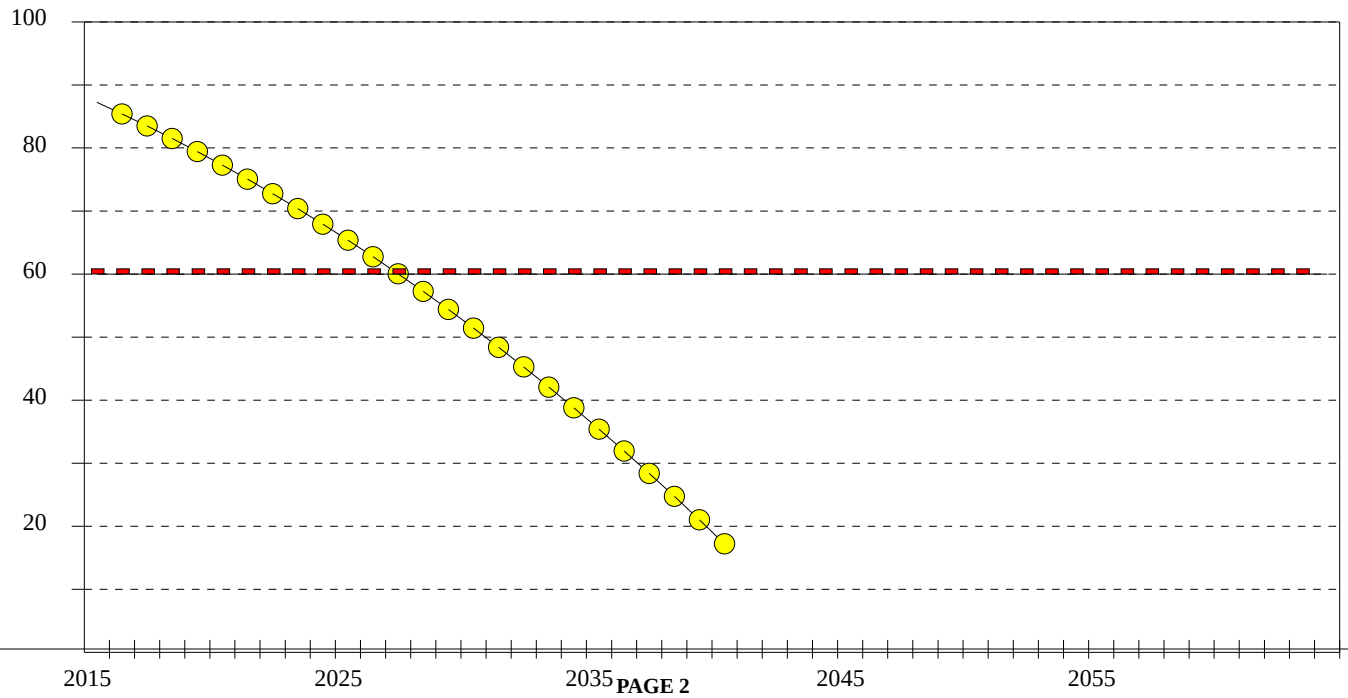
FEATURE: 3205 **DESCRIPTION:** FBO RAMP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 89 GOOD
CONSTRUCTION YEAR: 1990 **ESTIMATED PCI IS:** 87 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 67

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3210 **DESCRIPTION:** TAXIWAY E RUNNUP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 100
FEATURE AREA: 11,820 **FEATURE'S LOW PCI:** 100
INSPECTED AREA: 6,600 **AVERAGE PCI:** 100 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 99 in 2015

COMMENTS/HISTORY FOR FEATURE 3210, TAXIWAY E RUNNUP

2009 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3210

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS

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:	0 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	0 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

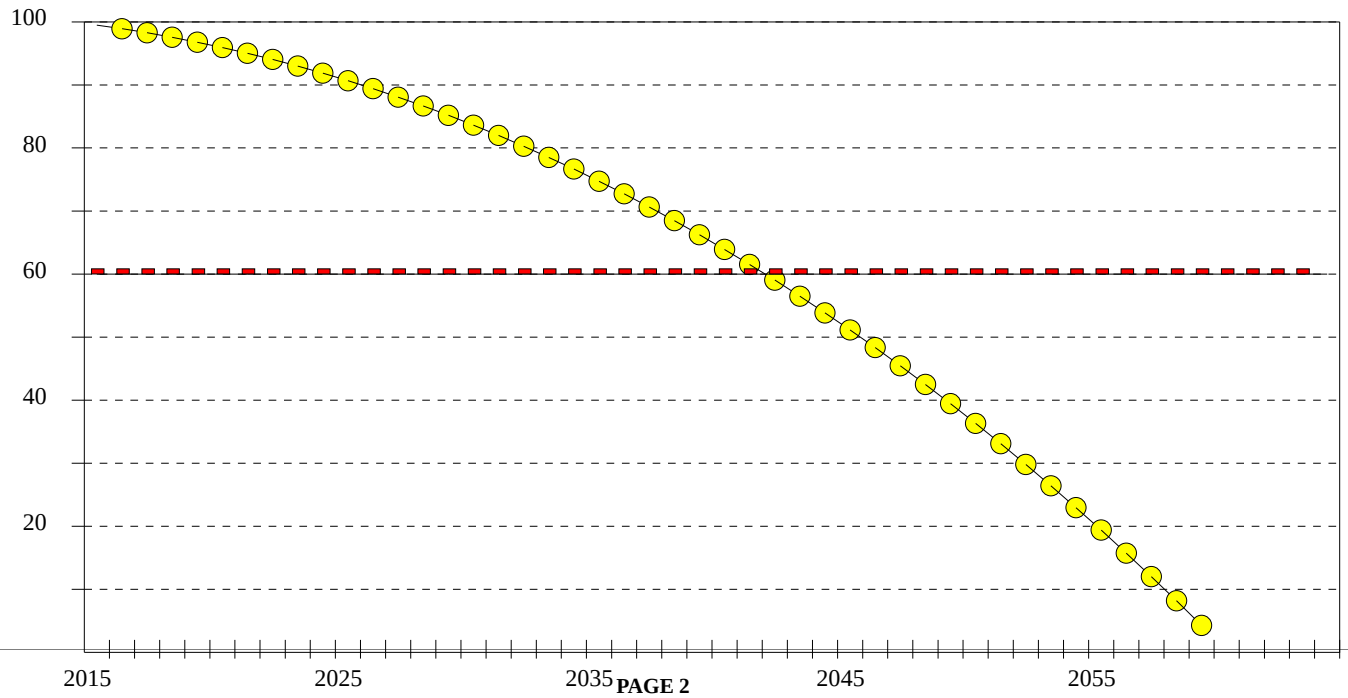
FEATURE: 3210 **DESCRIPTION:** TAXIWAY E RUNNUP

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: PCC **AVERAGE PCI AT INSPECTION:** 100 GOOD
CONSTRUCTION YEAR: 2009 **ESTIMATED PCI IS:** 99 in 2015
MINIMUM SERVICE LEVEL: 60 **NORMAL PCI FOR THIS AGE:** 96

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: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3305 **DESCRIPTION:** PURDUE RAMP

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: PCC **FEATURE'S HIGH PCI:** 93
FEATURE AREA: 120,500 **FEATURE'S LOW PCI:** 76
INSPECTED AREA: 28,170 **AVERAGE PCI:** 88 GOOD
MINIMUM SERVICE LEVEL: 60 **ESTIMATED PCI IS:** 58 in 2025

COMMENTS/HISTORY FOR FEATURE 3305, PURDUE RAMP

1980 PCC est
*
*
*

DISTRESS QUANTITIES FOR FEATURE 3305

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
JOINT SEAL DAMAGE	MED	270	1,154	SLABS	49.8
JOINT SEAL DAMAGE	LOW	25	106	SLABS	1.2
PATCH<5 SF	HIGH	1	4	SLABS	2.7
SETTLEMENT/FAULT	LOW	8	34	SLABS	16
SPALLING-JOINTS	HIGH	1	4	SLABS	7
SPALLING-JOINTS	MED	4	17	SLABS	7.8
SPALLING-JOINTS	LOW	2	8	SLABS	1.6
SPALLING-CORNERS	HIGH	2	8	SLABS	5.2
SPALLING-CORNERS	MED	3	12	SLABS	5.7
SPALLING-CORNERS	LOW	2	8	SLABS	2.3

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 26 %
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: 45 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 3305 **DESCRIPTION:** PURDUE RAMP

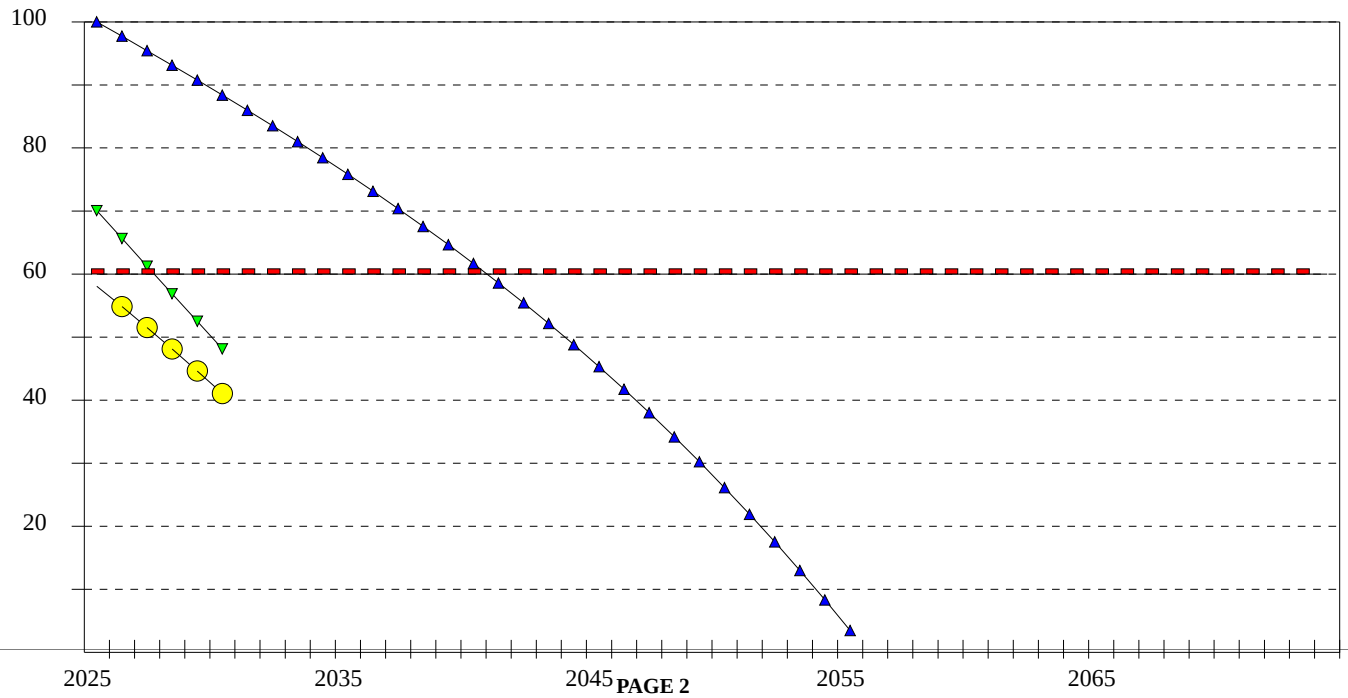
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2025
PAVEMENT TYPE: PCC
CONSTRUCTION YEAR: 1980
MINIMUM SERVICE LEVEL: 60

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 88 GOOD
ESTIMATED PCI IS: 58 in 2025
NORMAL PCI FOR THIS AGE: 7

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	REPAIR AND/OR OVERLAY	$663,955	16 YEARS
▼	PATCHING/JOINT REPAIR	$23,924	3 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 60		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 5010 **DESCRIPTION:** RUNWAY 10-28 KEEL

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2020 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC **FEATURE'S HIGH PCI:** 80
FEATURE AREA: 377,781 **FEATURE'S LOW PCI:** 61
INSPECTED AREA: 60,000 **AVERAGE PCI:** 73 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 64 in 2020

COMMENTS/HISTORY FOR FEATURE 5010, RUNWAY 10-28 KEEL

1996 4" P401
AVG 9.5" RECYCLED
EXISTING SUBGRADE
*

DISTRESS QUANTITIES FOR FEATURE 5010

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	85	535	S.F.	12.9
DEPRESSION	LOW	21	132	S.F.	.3
LONG.& TRANS. CRACK	MED	388	2,443	L.F.	23.8
LONG.& TRANS. CRACK	LOW	3,310	20,840	L.F.	45.3
WEATHERING	MED	200	1,259	S.F.	.6
WEATHERING	LOW	59,300	373,373	S.F.	16.9

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS:	13 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS:	52 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS:	35 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 5010 **DESCRIPTION:** RUNWAY 10-28 KEEL

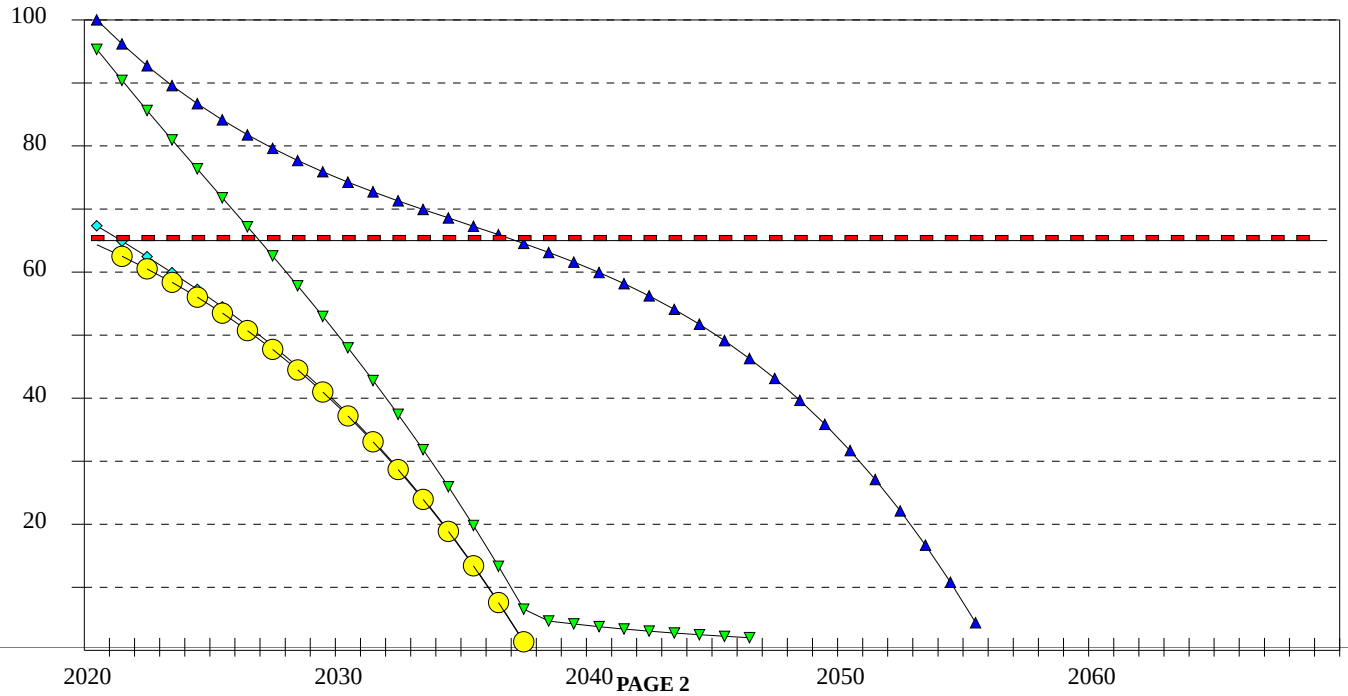
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2020
PAVEMENT TYPE: AC
CONSTRUCTION YEAR: 1996
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 73 SATISFACTORY
ESTIMATED PCI IS: 64 in 2020
NORMAL PCI FOR THIS AGE: 54

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$544,004	17 YEARS
▼	SURFACE TREATMENT	$150,363	7 YEARS
◆	CRACK REPAIR	$28,870	1 YEAR
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 5015 **DESCRIPTION:** RUNWAY 10-28 WING

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC **FEATURE'S HIGH PCI:** 85
FEATURE AREA: 665,525 **FEATURE'S LOW PCI:** 64
INSPECTED AREA: 105,000 **AVERAGE PCI:** 75 SATISFACTORY
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 65 in 2021

COMMENTS/HISTORY FOR FEATURE 5015, RUNWAY 10-28 WING

1996 4" P401
AVG 9.5" RECYCLED
EXISTING SUBGRADE
*

DISTRESS QUANTITIES FOR FEATURE 5015

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	60	380	S.F.	5.6
DEPRESSION	MED	4	25	S.F.	.8
DEPRESSION	LOW	14	88	S.F.	.1
LONG.& TRANS. CRACK	MED	1,144	7,251	L.F.	35.7
LONG.& TRANS. CRACK	LOW	4,199	26,614	L.F.	38.5
WEATHERING	MED	150	950	S.F.	.2
WEATHERING	LOW	100,850	639,220	S.F.	18.8

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 6 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 57 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 38 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 5015 **DESCRIPTION:** RUNWAY 10-28 WING

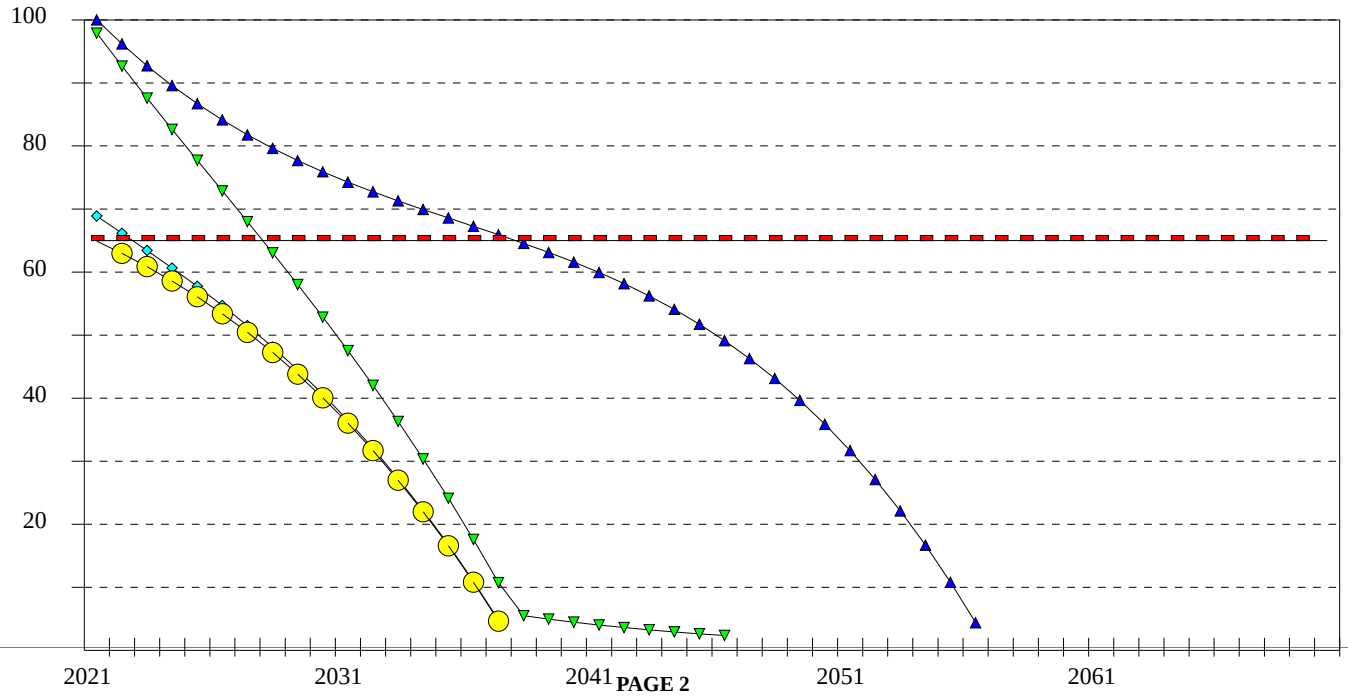
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2021
PAVEMENT TYPE: AC
CONSTRUCTION YEAR: 1996
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 75 SATISFACTORY
ESTIMATED PCI IS: 65 in 2021
NORMAL PCI FOR THIS AGE: 52

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$958,356	17 YEARS
▼	SURFACE TREATMENT	$268,545	7 YEARS
◆	CRACK REPAIR	$41,992	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 6005 **DESCRIPTION:** RUNWAY 5-23

ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2018 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 80
FEATURE AREA: 350,500 **FEATURE'S LOW PCI:** 61
INSPECTED AREA: 65,000 **AVERAGE PCI:** 70 FAIR
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 65 in 2018

COMMENTS/HISTORY FOR FEATURE 6005, RUNWAY 5-23

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1972 5" P401 (First 1000' = 4"P401 / 6"P201 / 14"P154)
1958 5" P401
1946 5" P401 / 4" P208

DISTRESS QUANTITIES FOR FEATURE 6005

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	LOW	21	113	S.F.	4.7
LONG.& TRANS. CRACK	MED	351	1,892	L.F.	22.1
LONG.& TRANS. CRACK	LOW	4,682	25,246	L.F.	54.4
PATCH & UTILITY CUT	LOW	100	539	S.F.	1.4
WEATHERING	MED	2,100	11,323	S.F.	5.5
WEATHERING	LOW	33,750	181,990	S.F.	11.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 6 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 57 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 37 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 6005 **DESCRIPTION:** RUNWAY 5-23

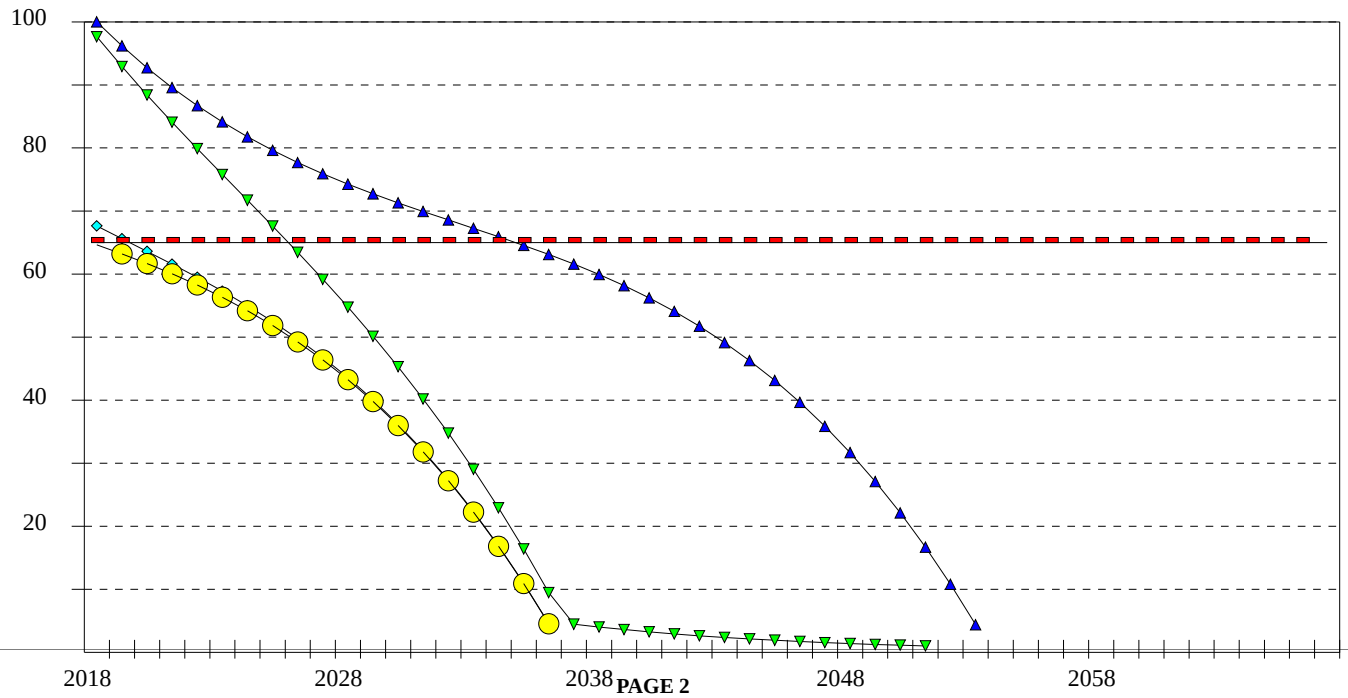
ANALYSIS YEAR: 2015 **OPTIMIZED FOR:** 2018
PAVEMENT TYPE: AC OVERLAY
CONSTRUCTION YEAR: 2001
MINIMUM SERVICE LEVEL: 65

INSPECTION DATE: 10-29-14
AVERAGE PCI AT INSPECTION: 70 FAIR
ESTIMATED PCI IS: 65 in 2018
NORMAL PCI FOR THIS AGE: 64

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$504,720	17 YEARS
▼	SURFACE TREATMENT	$139,041	8 YEARS
◆	CRACK REPAIR	$33,651	2 YEARS
●	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

FEATURE: 6010 **DESCRIPTION:** RUNWAY 5-23

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14

PAVEMENT TYPE: AC OVERLAY **FEATURE'S HIGH PCI:** 71
FEATURE AREA: 61,287 **FEATURE'S LOW PCI:** 46
INSPECTED AREA: 25,000 **AVERAGE PCI:** 60 FAIR
MINIMUM SERVICE LEVEL: 65 **ESTIMATED PCI IS:** 58 in 2015

COMMENTS/HISTORY FOR FEATURE 6010, RUNWAY 5-23

2001: 1.5" P401 (1/2" Agg) / P603 / 1.5" P401 (3/4" Agg)
1996 1.5" P401 / AVG 9.5" RECYCLED
1946 AVG 4.5" P401 / 5" P154
*

DISTRESS QUANTITIES FOR FEATURE 6010

DISTRESS TYPE	SEVERITY	MEASURED QUANTITY	ESTIMATED TOTAL QUANTITIY	UNITS	PERCENTAGE OF All DISTRESS
ALLIGATOR CRACKING	MED	30	73	S.F.	8.4
ALLIGATOR CRACKING	LOW	108	264	S.F.	17.9
BLOCK CRACKING	MED	875	2,145	S.F.	10.1
BLOCK CRACKING	LOW	875	2,145	S.F.	7.1
DEPRESSION	LOW	32	78	S.F.	.8
LONG.& TRANS. CRACK	MED	96	235	L.F.	11.3
LONG.& TRANS. CRACK	LOW	2,178	5,339	L.F.	35.6
WEATHERING	MED	450	1,103	S.F.	1.8
WEATHERING	LOW	12,700	31,133	S.F.	6.6

BASIC DISTRESS CAUSES

APPROXIMATE AMOUNT OF DISTRESS RELATED TO LOAD ON THE PAVEMENT IS: 26 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO MATERIALS PROBLEMS IN THE FEATURE IS: 35 %
APPROXIMATE AMOUNT OF DISTRESS RELATED TO AGE OF PAVEMENT AND TRAFFIC REPETITIONS IS: 39 %

AIRPORT: LAFAYETTE/PURDUE UNIVERSITY

AIRPAV FEATURE ANALYSIS PROGRAM OUTPUT

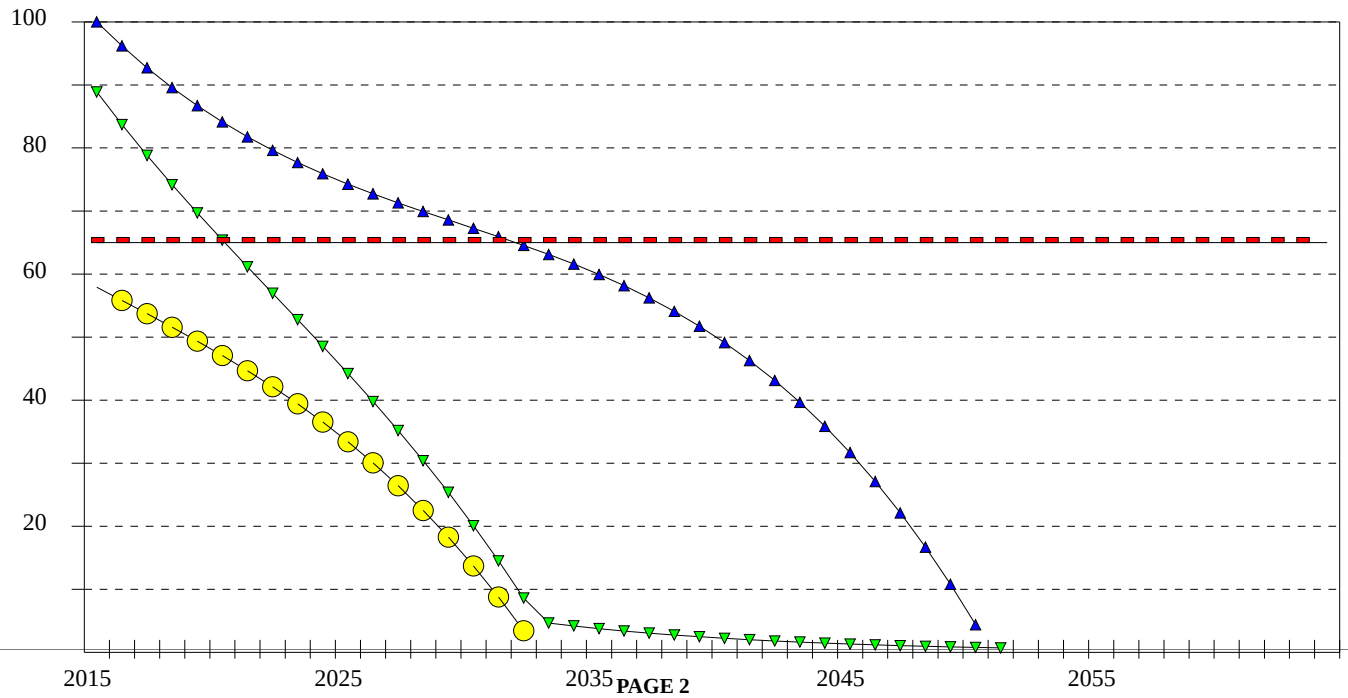
FEATURE: 6010 **DESCRIPTION:** RUNWAY 5-23

ANALYSIS YEAR: 2015 **INSPECTION DATE:** 10-29-14
PAVEMENT TYPE: AC OVERLAY **AVERAGE PCI AT INSPECTION:** 60 FAIR
CONSTRUCTION YEAR: 2001 **ESTIMATED PCI IS:** 58 in 2015
MINIMUM SERVICE LEVEL: 65 **NORMAL PCI FOR THIS AGE:** 68

THE FOLLOWING PROJECTS HAVE BEEN SELECTED AS VIABLE ALTERNATIVES

LEGEND	DESCRIPTION	COST	LIFE EXTENSION
▲	RESURFACING	$88,253	17 YEARS
▼	SURFACE TREATMENT	$25,789	6 YEARS
○	NO ACTION	N/A	N/A
-	MINIMUM SERVICE LEVEL, CURRENTLY 65		

PROJECTED PERFORMANCE



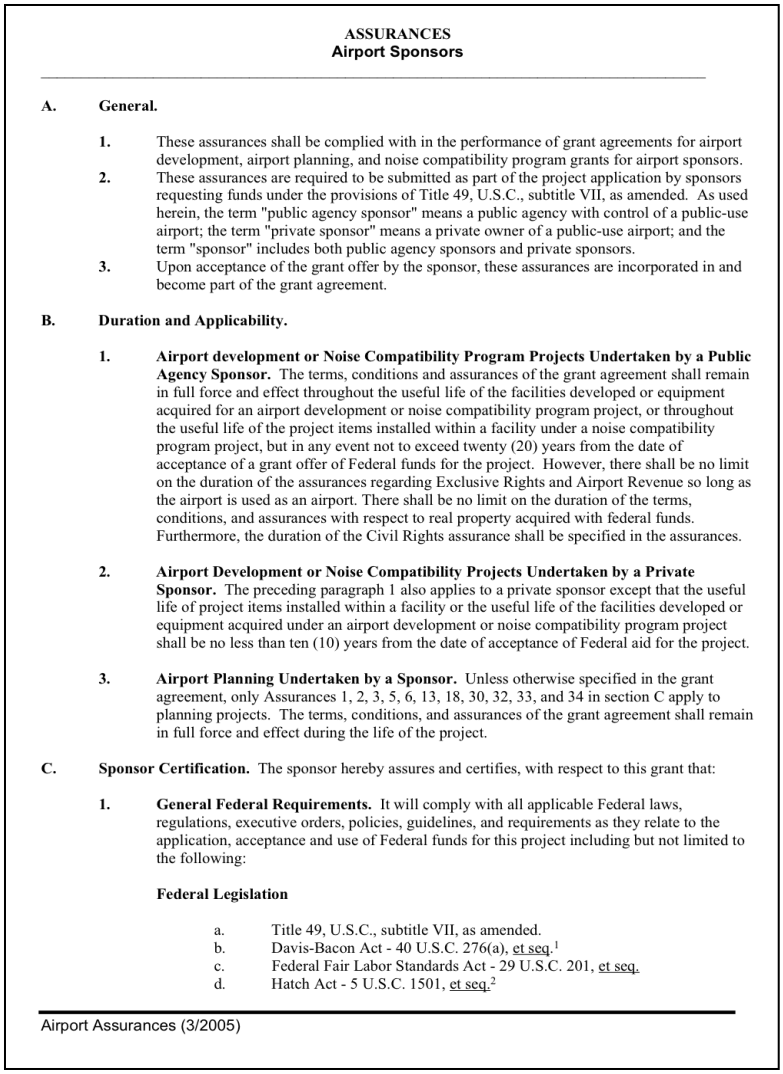
Appendix F. Airport Responsibilities

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

3105	
AC	2001
50 x 65	
4	10

3110	
AC	est. 2006
50 X 60	
4	9

3115	
PCC	est. 2007
18@12.5x12.5	
4	10

3120	
PCC	est. 1980
20@12.5x7.5	
3	5

3005	
PCC	1995
20 SLABS 20' x20'	
7	21

3025	
PCC	est. 2007
56@8600	
1	1

3210	
PCC	2009
20 SB	
2	4

2015	
AC	2001
100 X 20	
4	9

102	
AC	2002
50 X 100	
3	6

103	
AC/AC	2004
50 X 100	
2	4

104	
AC/AC	2004
40 X 100	
2	2

105	
AC/AC	1996
75'x50'	
2	2

106	
AC/AC	2001
50 X 100	
2	2

108	
AC/AC	2001
50 X 100	
2	2

112	
AC/AC	2001
50 X 100	
3	4

120	
AC/AC	1996
75'x66'	
1	1

121	
AC/AC	2001
100'x66'	
3	5

101	
AC/AC	2001
100'x50'	
12	52

140	
AC/AC	1996
48'x66'	
2	3

145	
AC/AC	2001
100'x66'	
3	7

150	
AC/AC	1996
95'x65'	
2	3

155	
AC/AC	2001
100'x65'	
2	4

160	
AC/AC	2001
65'x66'	
2	2

3015	
PCC	2006
60@12750	
1	1

3020	
PCC	2005
40@4650	
1	1

3010	
PCC	1990
36 SLABS 7.5x15 VAR	
12	53

3030	
AC	OLD
100 x 50	
3	6

301	
AC/AC	2005
65&50 X 100	
5	11

6010	
AC/AC	1996
50'x100'	
5	12

295	
AC/AC	2002
75 x 50 100 x 50	
2	2

296	
AC/AC	1996
25 x 88	
1	1

305	
AC/AC	1996
100'xVAR	
2	2

310	
AC/AC	2005
111'x65'	
3	6

405	
AC/AC	2002
100 x 40	
2	4

410	
AC/AC	2002
100 x 40	
4	8

5010	
AC	1996
100'x50'	
12	66

5015	
AC	1996
100'x50'	
21	132

205	
AC/AC	1996
90'xVar 7600 sf	
1	1

201	
AC/AC	2005
50 X 100	
6	18

6005	
AC/AC	2001
50 X 100	
9	33

292	
AC/AC	2001
5525 SF	
1	1

290	
AC/AC	2005
95 X 65	
1	1

291	
AC/AC	2001
6800 sf	
1	1

505	
PCC	est 1990
20 sb 7.5' x 8.75'	
7	16

3205	
PCC	est 1990
20 sb 7.5' x 12.5'	
12	60

3305	
PCC	est 1980
25 sb 7.5' x 12.5'	
12	60

RUNWAY 10-28

RUNWAY 5-23

NORTH

0 200 400 600

NO.	REVISIONS	BY	APR.	DATE
	2012 REVISIONS	JB	-	7-12
	2006 REVISIONS	JB		7-06

INDIANA DEPARTMENT OF TRANSPORTATION
AERONAUTICS SECTION

PCI EVALUATION
Lafayette-Purdue University Airport (LAF)
West Lafayette, Indiana
TOWER 119.6 GROUND 121.9

APPLIED RESEARCH ASSOCIATES, INC.