## 2022

## Statewide Airfield Pavement Management Program District 2 Airfield Pavement Evaluation Report



SER



In 1992, the Florida Department of Transportation (FDOT) established the Statewide Airfield Pavement Management Program (SAPMP) to provide program managers, District Aviation Offices, and airport operators with a system to proactively manage airfield pavement infrastructure within the Florida airport system. The SAPMP includes Pavement Condition Index (PCI) surveys for airport facilities. Currently, the SAPMP includes 95 participating public-use airports with pavement facilities and provides its users with comprehensive data to better manage their pavement assets.

Airports participating in the Airport Improvement Program (AIP) are required by the Federal Aviation Administration (FAA) to develop and implement a pavement maintenance program to be eligible for funding per FAA Advisory Circular 150/5380-6C "Guidelines and Procedures for Maintenance of Airport Pavements" and 150/5380-7B "Airport Pavement Management Program (PMP)". In general, adherence to the FAA Advisory Circulars is mandatory for projects funded with federal grant monies through the AIP and with revenue from the Passenger Facilities Charges (PFC) Program. The AIP requires detailed assessments of airfield pavements at least once a year for a pavement management program. The frequency of the detailed inspections may be extended to every three years if the pavement is assessed according to the PCI survey procedure described in ASTM D5340-20 "Standard Test Method for Airport Pavement Condition Index Surveys". FDOT performs the SAPMP System Updates for the benefit of participating public-use and publicly owned airports through the FDOT's Aviation Office.

The results of this program for the airports within District 2 are presented in this summary and can be utilized by the District to identify, prioritize, and schedule pavement maintenance, repair, reconstruction, and major rehabilitation projects. This summary was created specifically for the use of the District Aviation Offices and differs from the FDOT SAPMP individual airport reports regarding the summarization of data presented.

Statewide Airfield Pavement Management Program

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## **Program Benefits**

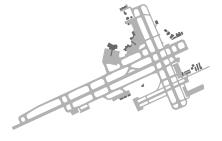
The SAPMP enables the FDOT Aviation Office and the FDOT Districts to monitor pavement conditions at Florida airports. The SAPMP provides objective condition information needed to make informed decisions regarding the significant capital investment that the public-use airport pavement infrastructure represents. Utilizing the SAPMP will help stakeholders better understand the relative condition of their pavement facilities and when those facilities should be rehabilitated. The data collected from the SAPMP can be used for project planning for the next 10 years and will be revisited every three years as pavement conditions are updated.

From a pavement management perspective, one of the most valuable aspects of the SAPMP is the ability to determine the optimum time for treatment resulting in cost savings by effectively prioritizing the rehabilitation of pavement assets that have, or will soon reach, a critical condition or PCI. The SAPMP supports a proactive major rehabilitation strategy that can effectively address pavement projects before the cost of these projects begin to exponentially increase.

The SAPMP addresses the requirements of maintaining an effective pavement management program for participating airports. Management of pavement assets provides insight for short- and long-term budget needs, understanding of the overall pavement condition (current and future), and knowledge of the pavement facilities that are under consideration for projects. A pavement evaluation can support the identification of maintenance, repair, and major rehabilitation needs and budgetary planning-level opinions of probable construction costs.

## **PAVEMENT INVENTORY OVERVIEW** Airport Category

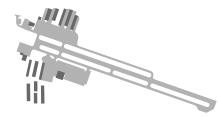
The airports within the FDOT SAPMP are classified into three categories as identified by the NPIAS: Primary/Commercial (PR), Reliever (RL), and General Aviation (GA). The summaries found within the remainder of this document are identified and summarized by these three categories, which are defined below.



**Primary/Commercial:** Primary and/or commercial service airports are publicly owned airports with scheduled air carrier service. Example, DAB – Daytona Beach International Airport.



**Reliever:** A non-primary airport designated to relieve congestion at commercial service airports and to provide more general aviation access to the overall community. Example, ORL – Orlando Executive Airport.



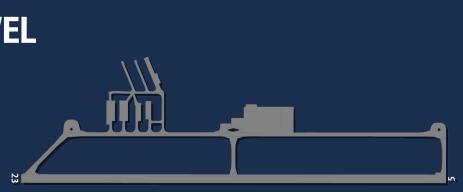
**General Aviation:** A public-use airport that does not have scheduled service or has scheduled service with less than 2,500 passenger boardings per year. Example, COI – Merritt Island Airport.

## **Airport Pavement Network Definition Terminology**

The following section defines the common terms used in the SAPMP System Update.

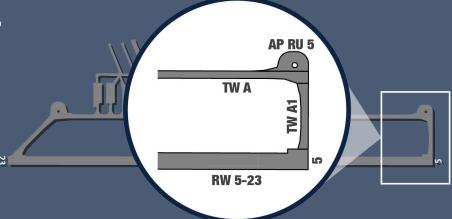
## **NETWORK LEVEL**

An individual Airport's airfield pavement facilities maintained by the Airport.



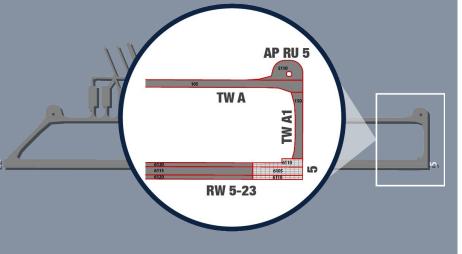
## **BRANCH LEVEL**

A logical unit of generally identifiable pavement within a network that has a distinct functional classification.



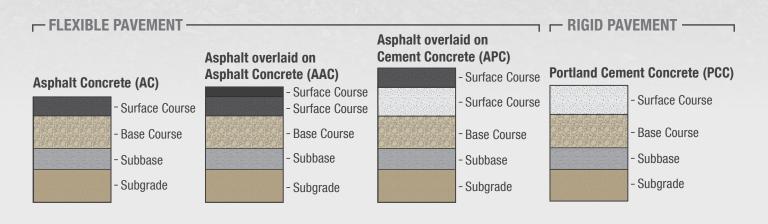
## **SECTION LEVEL**

A subdivision of a branch that has consistent characteristics throughout its length or area. These characteristics include structural composition, construction history, age, traffic type, traffic frequency, and pavement condition.



## **FDOT SAPMP Surface Types**

FDOT airfield pavements consist of two predominant pavement types: flexible (AC-surfaced) and rigid (PCC-surfaced), which are further broken down into four categories defined below. The pavement sections shown are intended to be conceptual representations and may vary from actual construction. It should be noted that a select number of airports within the program contain a fifth surface type called Whitetopping Pavement (WT). Whitetopping pavement is a non-FAA standard composite pavement comprised of relatively thin PCC overlaid on an existing AC pavement structure.



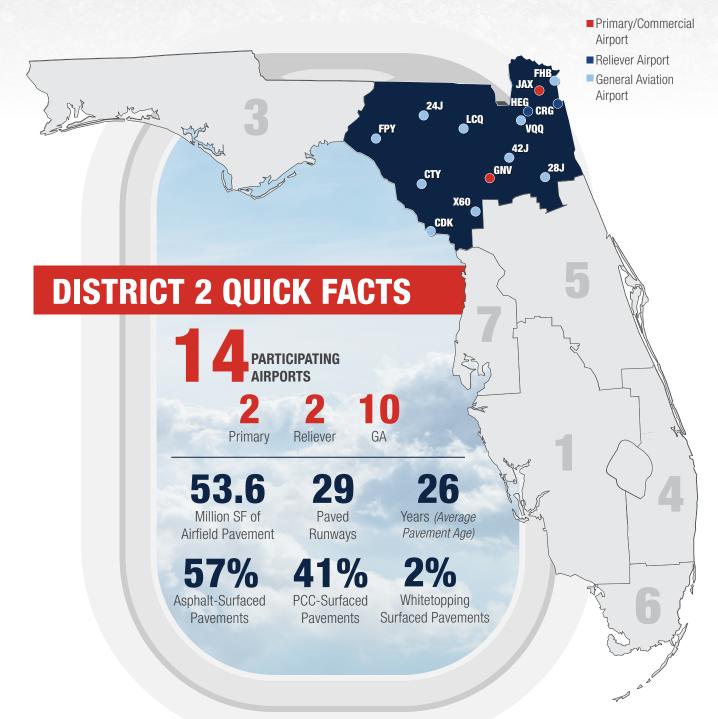
## **Pavement Age**

Pavement age is determined by the date of the last major work project performed. The estimation of pavement age is based on recent construction information requested from the airports at the start of the program. Major work such as reconstruction or rehabilitation resets a pavement's age to zero and the PCI to 100. It should be noted that surface treatments do not reset a pavement's age to zero as a reconstruction or rehabilitation project would; they are used as a measure to maintain and improve the current pavement surface and extend the life of the pavement without performing major work.

Major work such as *reconstruction* or *rehabilitation* resets a pavement's age to *zero* and the *PCI* to 100.

### **District 2 Inventory Summary**

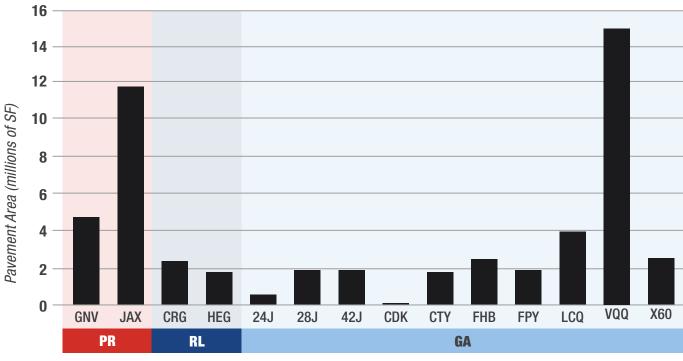
District 2 is responsible for 14 of the 95 participating Primary (PR), Reliever (RL), and General Aviation (GA) airports. As part of the FDOT SAPMP System Update, all these airports underwent a comprehensive pavement inventory update based on project record documentation provided by the airports at the start of this program. These updates included pavement facility limits, surface type, and section definitions resulting from provided project limits. It should be noted that although Northeast Florida Regional Airport (SGJ) falls within District 2, the airport performs its own pavement evaluation separate from the FDOT SAPMP and its data is not summarized in this document.



#### DISTRICT 2 AIRPORTS

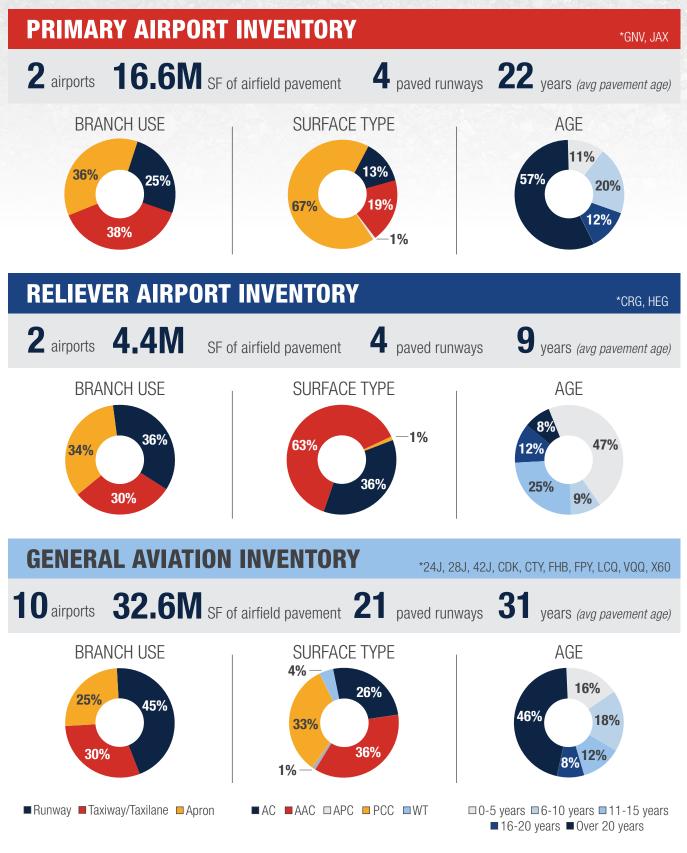
Airport Identifier	Airport Name	SAPMP Phase	Airport Pavement Area (millions of SF)	Number of Runways
	Primary/Cor	nmercial		
GNV	Gainesville Regional Airport	2	4.9	2
JAX	Jacksonville International Airport	2	11.7	2
	Reliev	ver		
CRG	Jacksonville Executive At Craig Airport	2	2.6	2
HEG	Herlong Recreational Airport	2	1.8	2
	General A	viation		
24J	Suwannee County Airport	1	0.8	1
28J	Palatka Municipal - Lt. Kay Larkin Field	1	1.9	2
42J	Keystone Heights Airport	1	1.8	2
CDK	George T. Lewis Airport	1	0.2	1
CTY	Cross City Airport	1	1.7	2
FHB	Fernandina Beach Municipal Airport	2	2.9	3
FPY	Perry-Foley Airport	1	1.9	2
LCQ	Lake City Gateway Airport	1	3.9	2
VQQ	Cecil Airport	1	15.0	4
X60	Williston Municipal Airport	2	2.5	2

#### DISTRICT 2 PAVEMENT AREA BY AIRPORT



Airports by Airport Category

## **District 2 Inventory Summary by Airport Category**

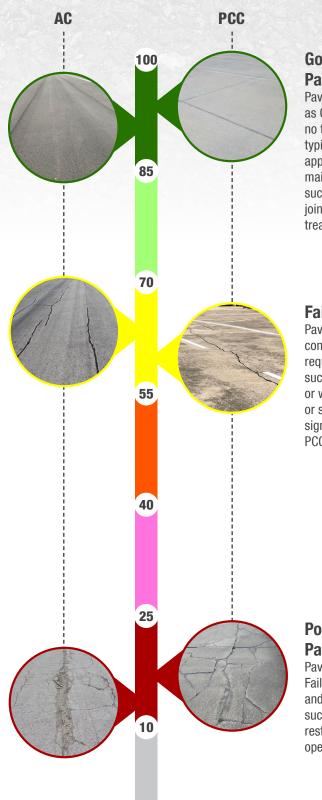


## PAVEMENT CONDITION INDEX (PCI)

In adherence to the FAA Advisory Circular 150/5380-7B "Airport Pavement Management Program" and ASTM D5340- 20 "Standard Test Method for Airport Pavement Condition Index Surveys," the pavements were evaluated using the PCI Survey Method of inspection.

The PCI procedure is a visual statistical sampling of pavements for recording primary distress types (e.g. cracking and deformation), associated severities, and quantities as defined bv ASTM D5340-20, and is the primary method of observing and recording distress data. provides a consistent, lt obiective. and repeatable method to evaluate the pavement condition.

The collected distress data is used to calculate an index that represents the functional pavement condition in numerical terms ranging from 0 (Failed pavement) to 100 (Good or new pavement). The adjacent figure provides a visual representation of the scale.



N

#### Good/New Pavement

Pavements classified as Good require either no treatment or would typically benefit from the application of preventative maintenance activities such as crack seals, joint seals, and surface treatment.

#### **Fair Pavement**

Pavements with a Fair condition rating typically require rehabilitation such as an overlay with or without milling for AC or select crack seal with significant patching for PCC.

#### Poor/Failed Pavement

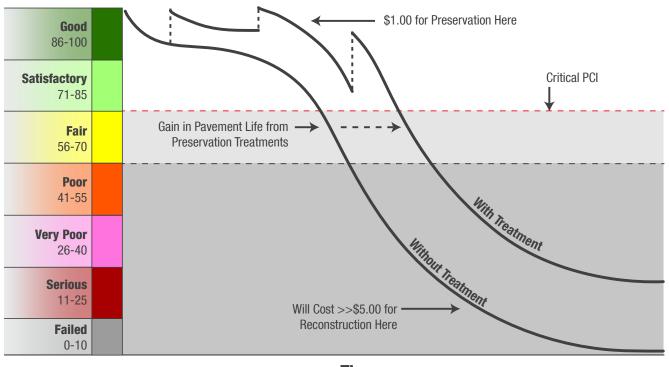
Pavements that are Poor or Failed require significant and costly interventions such as reconstruction to restore the pavement to operational service.

## **Critical PCI**

Based on FAA Order 5100.38D Change 1 Airport Improvement Handbook, issued February 26, 2019, the FAA has established pavement construction based on thresholds that distinguish Rehabilitation and Reconstruction. Pavement sections between PCI values 55 and 70 will be considered for Rehabilitation and sections with PCI values less than 55 will be considered for Reconstruction at the planning-level. Accordingly, the **Critical PCI is defined at 70 for the FDOT SAPMP**. It should be noted that although a pavement reaches the threshold for rehabilitation, the pavement can still benefit from routine maintenance if no load-related distresses are present.

Critical PCI is defined at **70** for the **FDOT SAPMP** 

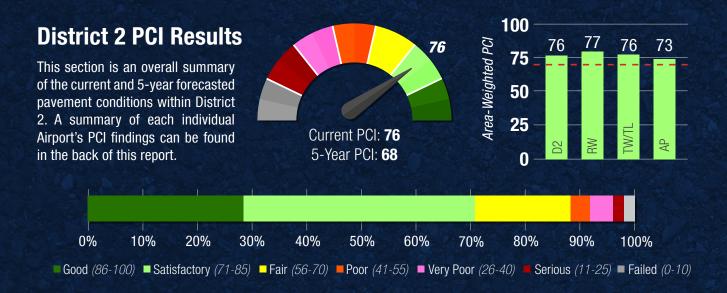
An effective pavement maintenance management program is intended to identify and estimate future maintenance, repair, rehabilitation, and reconstruction needs. When timely preservation maintenance is performed on pavements with conditions above the "critical condition", or prior to major decline in condition, significant rehabilitation and/or reconstruction may be delayed. The figure below depicts the concept of timely pavement treatments as described by the FAA AC 150/5380-7B.



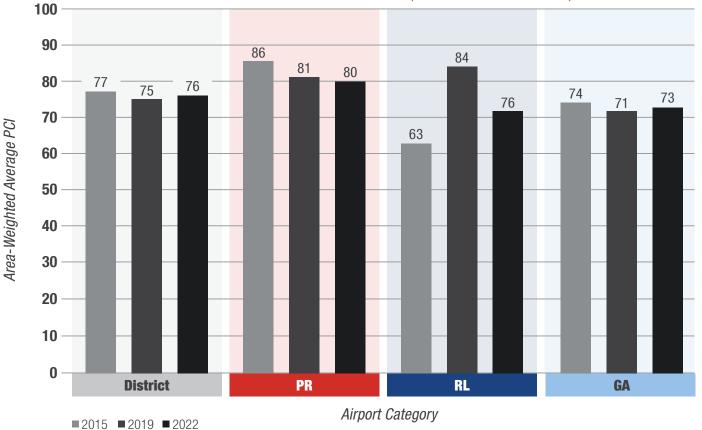
#### TYPICAL PAVEMENT CONDITION LIFE CYCLE

Time

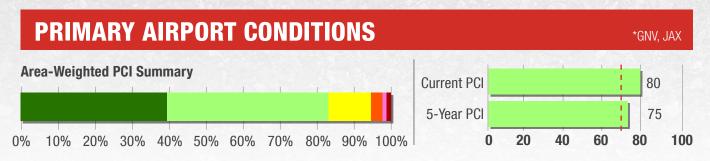
**FAA Eligibility Thresholds:** >70: Routine Maintenance 55-70: Rehabilitation Eligible <br/><br/>+Figure is for conceptual purposes only – unit costs are not specific to airfield pavements.



DISTRICT CONDITIONS BY CATEGORY (SINCE 2015 PROGRAM)

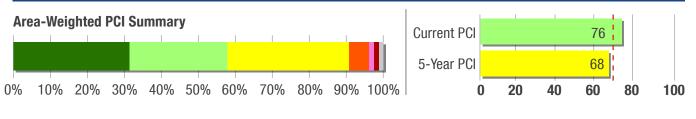


## **District 2 PCI Summary by Airport Category**



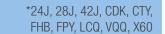
PCI Year	Runways	Taxiways/Taxilanes	Aprons	
Current PCI	83	80	78	1
5-Year PCI	78	75	73	

## **RELIEVER AIRPORT CONDITIONS**

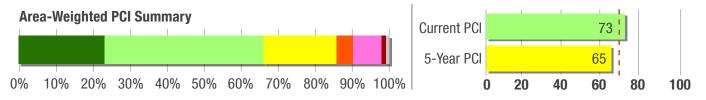


PCI Year	Runways	Taxiways/Taxilanes	Aprons
Current PCI	80	76	72
5-Year PCI	70	69	63

## **GENERAL AVIATION AIRPORT CONDITIONS**



\*CRG, HEG



PCI Year	Runways	Taxiways/Taxilanes	Aprons
Current PCI	75	74	70
5-Year PCI	64	67	63

■ Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10)





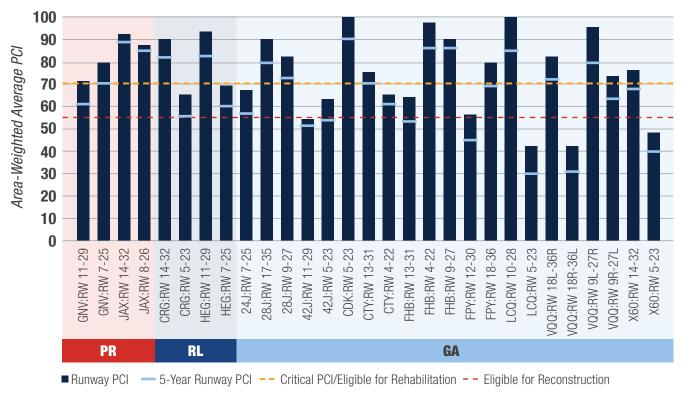








#### CURRENT AND FORECASTED 5-YEAR RUNWAY PCI BY FACILITY



#### RUNWAY CONDITION SUMMARY

Category	Airport	Runway ID	Runway Length	Runway Width	Runway PCI	5 Year RW PCI
			Primary			
PR	GNV	RW 11-29	7,504	150	71	61
PR	GNV	RW 7-25	4,158	100	80	70
PR	JAX	RW 14-32	7,701	150	92	89
PR	JAX	RW 8-26	10,000	150	87	85
			Reliever			
RL	CRG	RW 14-32	4,008	100	90	82
RL	CRG	RW 5-23	4,004	100	65	56
RL	HEG	RW 11-29	3,500	100	93	83
RL	HEG	RW 7-25	3,999	100	69	60
			<b>General Aviation</b>			
GA	24J	RW 7-25	4,005	75	67	57
GA	28J	RW 17-35	3,510	75	90	80
GA	28J	RW 9-27	6,000	100	82	72
GA	42J	RW 11-29	4,899	75	54	51
GA	42J	RW 5-23	5,046	100	63	54
GA	CDK	RW 5-23	2,355	100	100	90
GA	CTY	RW 13-31	5,001	100	76	70
GA	CTY	RW 4-22	5,005	75	65	61
GA	FHB	RW 13-31	5,152	100	64	54
GA	FHB	RW 4-22	5,301	100	97	86
GA	FHB	RW 9-27	5,000	100	90	86
GA	FPY	RW 12-30	4,754	100	56	45
GA	FPY	RW 18-36	5,013	100	80	69
GA	LCQ	RW 10-28	8,003	150	100	85
GA	LCQ	RW 5-23	4,000	75	42	30
GA	VQQ	RW 18L-36R	12,503	200	82	73
GA	VQQ	RW 18R-36L	8,002	200	42	31
GA	VQQ	RW 9L-27R	4,439	200	95	80
GA	VQQ	RW 9R-27L	8,003	200	74	63
GA	X60	RW 14-32	4,979	60	77	68
GA	X60	RW 5-23	6,669	100	48	40

**FAA Eligibility Thresholds: D >70:** Routine Maintenance

55-70: Rehabilitation Eligible

□ **<55:** Reconstruction Eligible

# SAPMP CUSTOMIZATION

### **FAA AIP Handbook PCI Requirements**

The FDOT SAPMP will integrate the PCI thresholds for airfield pavement projects to maintain alignment with the FAA AIP and/or PFC eligibility for project planning. The critical PCI value will be defined at 70 for the FDOT SAPMP. Critical PCI values for this SAPMP System Update are shown below.

#### FAA AIP HANDBOOK PCI REQUIREMENTS FOR AIRFIELD PAVEMENT PROJECTS

Airfield Pavement Project Type	PCI Requirement
Reconstruction	PCI < 55 (Poor)
Rehabilitation	PCI < 70 (Fair)
Maintenance	N/A

## FAA AIP Handbook Minimum Useful Life

Below is a table of typical localized maintenance and major work project types and their minimum useful life as identified in Table 3-7 of the FAA AIP Handbook. This minimum useful life criteria is used to help determine if a project is eligible for federal funding. The useful life of the facility being rehabilitated or reconstructed must have been met in order for the project to be funded.

#### FAA AIP HANDBOOK MINIMUM USEFUL LIFE

Project Type	Useful Life
Asphalt seal coat, Slurry Seal, and Joint Sealing	3 years
Concrete Joint Replacement	7 years
Pavement Rehabilitation (not reconstruction)	10 years
Pavement Reconstruction	20 years





### **Planning-Level Localized Maintenance**

Localized maintenance differs from major rehabilitation in that localized maintenance is applied based on the distresses observed and not an averaged or forecasted PCI value. Treatments are selected based on the appropriate corrective measure for a given distress type and severity level. Localized maintenance can be applied either as a preventive measure or a safety ("stopgap") measure. The two types of localized maintenance are described below in further detail.

- » Localized Preventive Maintenance and Repair
  - Distress maintenance activities performed with the primary objective of slowing the rate of deterioration. These activities typically include crack sealing and surface treatment.
- » Localized Stopgap/Safety Maintenance and Repair
  - Defined as the localized distress repair needed to keep a pavement in a safe and operational condition. These activities
    are typically applied to high-severity distresses or distresses impacting operations.

The work quantities used to develop costs are limited to a near-term application since they were determined directly from the PCI assessment efforts. As pavements continue to deteriorate year-to-year, quantities and/or distress severities may increase, which will affect the amount and type of localized maintenance required. This analysis can be utilized as a planning tool to assist airport staff in determining an annual budget allocation for maintenance activities that will help maintain airport pavements above the critical PCI value and extend the life of the pavement.

### **Planning-Level Major Rehabilitation**

Major rehabilitation is recommended to correct or improve structural deficiencies and/or functional deterioration. Often, when pavements are subject to significant changes in the aircraft fleet mix (frequency and type), major rehabilitation is required to provide a pavement section that can meet the structural demands of traffic loading. Major rehabilitation is generally described as a pavement construction that removes and replaces the pavement surface, thus resetting the PCI value to 100 and the pavement age to 0. Typical policies include full- and partial-depth reconstruction and mill and overlay.

Major Rehabilitation needs are identified by analyzing the airport's pavement condition in relationship to critical PCI values, major rehabilitation policies, and unit costs, assuming there are no budget constraints. While this is financially impractical, it does yield the unbiased pavement needs over a defined timeframe at each airport given current and forecasted pavement conditions. A review of cost trends and cost factors have been incorporated to assist airports in planning for project budgets.

Conceptual pavement sections were developed for this program based on the minimum requirements of the FAA AC 150/5320-6G and can be found in the Individual Airport Pavement Evaluation Report. No pavement design has been performed in accordance with AC 150/5320-6G for the determined conceptual sections.



## **Localized Maintenance Needs**

This FDOT SAPMP System Update provides a planning-level estimation of Localized Maintenance and Repair costs based on the results of the latest PCI assessment performed at the airports. The localized maintenance for Primary, Reliever, and General Aviation airports are shown below.

#### PLANNING-LEVEL LOCALIZED M&R NEEDS SUMMARY

Category	Network ID	Preventive Work Cost	Stopgap Work Cost	Total
DD	GNV	\$427,570	\$48,430	\$476,000
PR	JAX	\$1,389,350	\$10,930	\$1,400,280
Р	R Total	\$1,816,920	\$59,360	\$1,876,280
DI	CRG	\$125,030	\$11,600	\$136,630
RL	HEG	\$22,060	\$207,970	\$230,030
R	L Total	\$147,090	\$219,570	\$366,660
	24J	\$7,340	\$7,800	\$15,140
	28J	\$50,630	\$3,380	\$54,010
	42J	\$20,860	\$202,160	\$223,020
	CDK	\$0	\$0	\$0
C 1	CTY	\$4,990	\$34,200	\$39,190
GA	FHB	\$145,290	\$105,020	\$250,310
	FPY	\$390	\$248,990	\$249,380
	LCQ	\$12,210	\$66,630	\$78,840
	VQQ	\$4,222,790	\$139,230	\$4,362,020
	X60	\$56,230	\$1,124,760	\$1,180,990
G	A Total	\$4,520,730	\$1,932,170	\$6,452,900
<b>District 2 Tota</b>	I Localized Needs =	\$6,484,740	\$2,211,100	\$8,695,840

#### **DISTRICT 2 MAJOR REHABILITATION NEEDS** \$142.3M **PR** 188.7M **S82.4** 71.1M RL Total 5-Year RW Total 5-Year TW In Total 5-Year Major ■ GA Major Needs and AP Needs **Rehabilitation Needs** \$100.5M \$28.3M

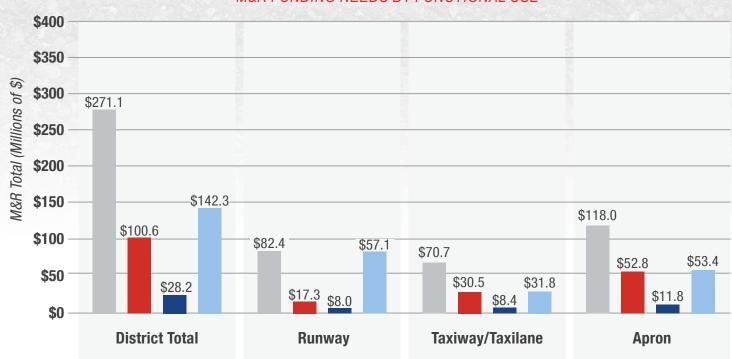
## **Major Rehabilitation Needs**

Due to the "unlimited" funding nature of the needs analysis, all present needs are addressed in the first planning year. The first planning year for each airport is the year following the airport's most recent inspection year for this program. The table below summarizes the planning-level major rehabilitation needs forecasted for a 5-year period within District 2. A summary of each individual Airport's needs at the section-level and the recommended work type can be found in the individual airport report.

Category	Network ID	Inspection Year	Year 1*	Year 2	Year 3	Year 4	Year 5	Planning Total
PR	GNV	2022	\$32.85	\$13.70	\$1.87	\$1.16	\$0.52	\$50.10
rn	JAX	2022	\$29.11	\$11.57	\$0.82	\$6.98	\$1.93	\$50.41
PF	R Planning 1	<b>fotal</b>	\$61.96	\$25.27	\$2.69	\$8.14	\$2.45	\$100.51
RL	CRG	2022	\$14.09	\$2.04	\$0.94	\$1.03	\$0.12	\$18.22
nc	HEG	2022	\$9.46	\$0.25	-	\$0.20	\$0.15	\$10.06
RI	Planning T	otal	\$23.55	\$2.29	\$0.94	\$1.23	\$0.27	\$28.28
	24J	2020	\$4.00	\$0.07	-	-	\$0.06	\$4.13
	28J	2020	\$2.65	-	\$0.76	\$0.97	\$0.08	\$4.46
	42J	2020	\$11.86	\$1.54	-	-	\$0.26	\$13.66
	CDK	2020	-	-	-	-	-	\$0.00
GA	CTY	2020	\$14.22	-	-	-	-	\$14.22
UA	FHB	2022	\$13.11	\$0.44	-	\$0.07	-	\$13.62
	FPY	2020	\$17.94	-	-	-	-	\$17.94
	LCQ	2020	\$12.86	-	-	-	-	\$12.86
	VQQ	2020	\$23.25	\$8.17	\$0.78	\$18.40	\$1.44	\$52.04
	X60	2022	\$6.61	-	-	\$2.77	-	\$9.38
GA	A Planning 1	otal	\$106.50	\$10.22	\$1.54	\$22.21	\$1.84	\$142.31
District 2	Major Plann	ing Needs =	\$192.01	\$37.78	\$5.17	\$31.58	\$4.56	\$271.10

#### M&R FUNDING NEEDS BY YEAR (IN MILLIONS)

\*Year 1 equates to 2021 for airports inspected in 2020 and 2023 for airports inspected in 2022



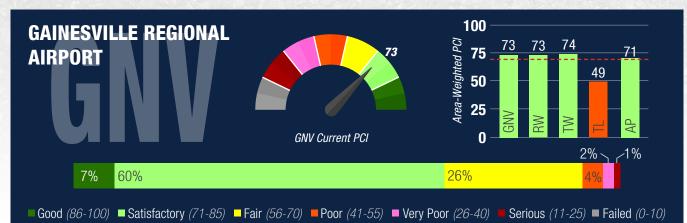
#### M&R FUNDING NEEDS BY FUNCTIONAL USE

#### Functional Use

*Airport Category* District 2 Primary/Commercial Reliever General Aviation



## **INDIVIDUAL AIRPORT RESULTS SUMMARIES PRIMARY/COMMERCIAL AIRPORTS**

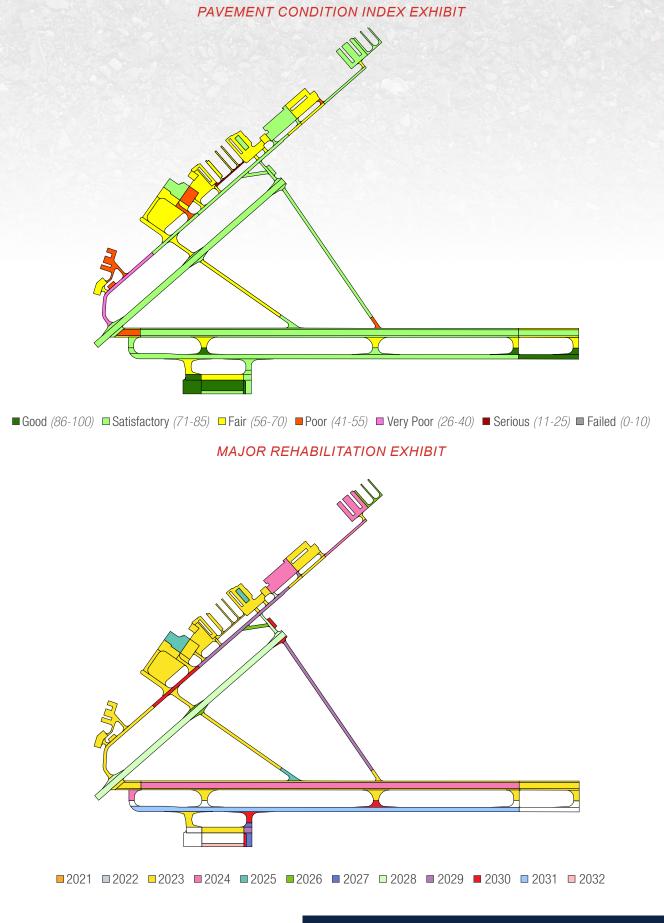


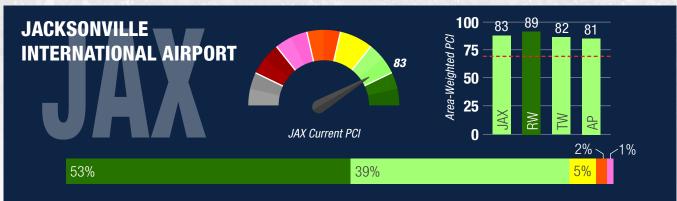
#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	AC Crack Sealing	1,145	LF	\$4,620
Localized Preventive	Surface Seal	475,691	SF	\$356,940
Maintenance	AC Full-Depth Patching	509	SF	\$9,550
(Total = \$427,570)	PCC Joint Seal	5,860	LF	\$24,910
	PCC Partial-Depth Patching	187	SF	\$31,550
Localized Stopgap Maintenance (Total = \$48,430)	AC Full-Depth Patching	2,582	SF	\$48,430
	Total	Localized Maintena	ance Needs =	\$476,000

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2023	\$23.6	\$9.2	\$32.8
2024	\$13.7	-	\$13.7
2025	\$1.9	-	\$1.9
2026	\$1.2	-	\$1.2
2027	\$0.5	-	\$0.5
2028	\$8.2	-	\$8.2
2029	\$4.6	-	\$4.6
2030	\$2.5	-	\$2.5
2031	\$10.2	-	\$10.2
2032	\$1.7	-	\$1.7
	Total Maj	or Rehabilitation Needs =	\$77.3

**Statewide Airfield Pavement Management Program** 





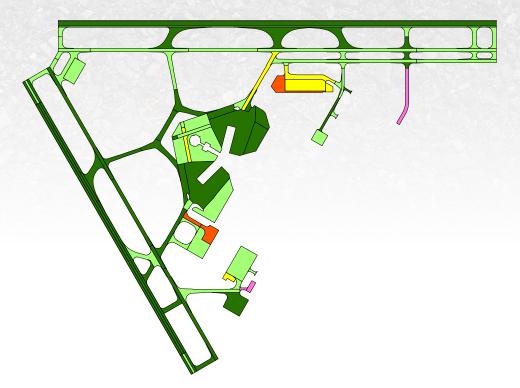
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Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	Surface Seal	4,640	SF	\$3,510
Localized Preventive Maintenance	PCC Joint Seal	262,114	LF	\$1,114,160
	PCC Partial-Depth Patching	1,119	SF	\$189,430
(Total = \$1,389,350)	PCC Full-Depth Patching	889	SF	\$66,670
	PCC Slab Replacement	303	SF	\$15,580
Localized Stopgap Maintenance	PCC Crack Sealing	170	LF	\$1,200
(Total = \$10,930)	PCC Partial-Depth Patching	58	SF	\$9,730
	Total	Localized Maintena	ance Needs =	\$1,400,280

#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

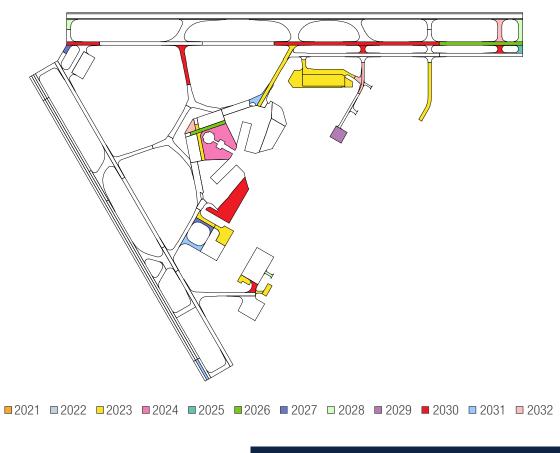
Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2023	\$11.8	\$17.3	\$29.1
2024	\$11.6	-	\$11.6
2025	\$0.8	-	\$0.8
2026	\$7.0	-	\$7.0
2027	\$1.9	-	\$1.9
2028	\$3.1	-	\$3.1
2029	\$1.4	-	\$1.4
2030	\$34.8	-	\$34.8
2031	\$5.2	-	\$5.2
2032	\$5.8	-	\$5.8
	Total Maj	or Rehabilitation Needs =	\$100.7

PAVEMENT CONDITION INDEX EXHIBIT

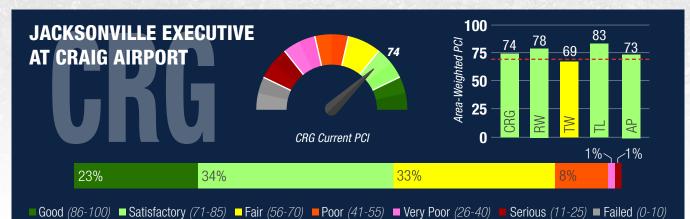


■ Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10)

#### MAJOR REHABILITATION EXHIBIT



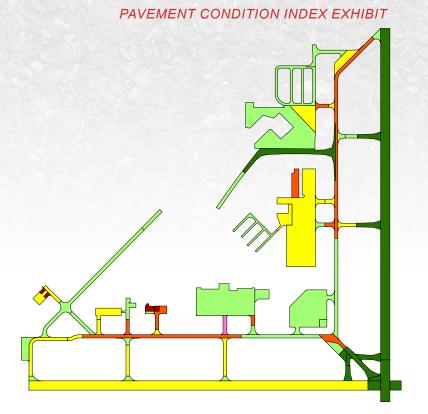
## **RELIEVER AIRPORTS**



#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

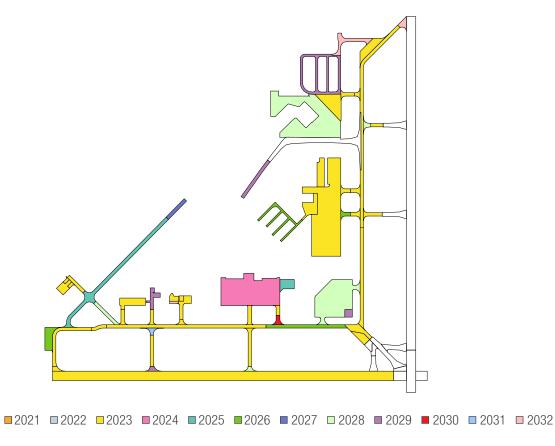
Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive	AC Crack Sealing	322	LF	\$1,290
Maintenance	Surface Seal	157,123	SF	\$117,950
(Total = \$125,030)	PCC Joint Seal	1,361	LF	\$5,790
	PCC Crack Sealing	480	LF	\$3,370
Localized Stopgap Maintenance (Total = \$11,600)	PCC Joint Seal	750	LF	\$3,190
(1000)	PCC Full-Depth Patching	78	SF	\$5,040
	Total	Localized Maintena	ance Needs =	\$136.630

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2023	\$9.3	\$4.7	\$14.0
2024	\$2.0	-	\$2.0
2025	\$0.9	-	\$0.9
2026	\$1.0	-	\$1.0
2027	\$0.1	-	\$0.1
2028	\$5.0	-	\$5.0
2029	\$1.5	-	\$1.5
2030	\$0.1	-	\$0.1
2031	\$0.1	-	\$0.1
2032	\$0.6	-	\$0.6
	Total Maj	or Rehabilitation Needs =	\$25.3

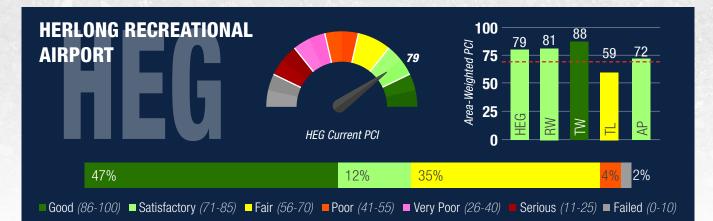


■ Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10)

#### MAJOR REHABILITATION EXHIBIT



District 2 Airfield Pavement Evaluation Report 25

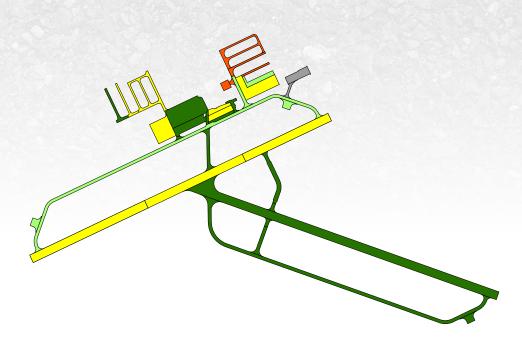


Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance (Total = \$22,060)	Surface Seal	29,324	SF	\$22,060
	AC Full-Depth Patching	596	SF	\$6,870
	PCC Crack Sealing	1,748	LF	\$12,250
Localized Stopgap Maintenance (Total = \$207,970)	PCC Partial-Depth Patching	53	SF	\$9,030
(10101 - 4201,010)	PCC Full-Depth Patching	152	SF	\$9,870
	PCC Slab Replacement	3,300	SF	\$169,950
	Total	Localized Maintena	ance Needs =	\$230,030

#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

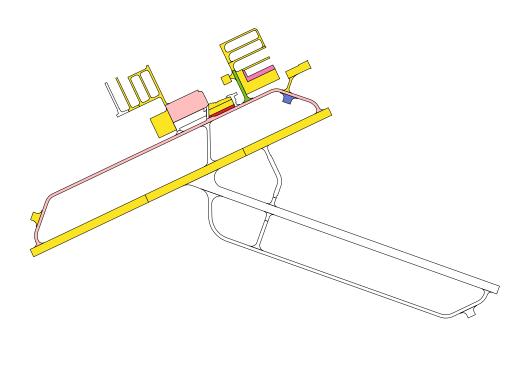
Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2023	\$6.7	\$2.8	\$9.5
2024	\$0.2	-	\$0.2
2026	\$0.2	-	\$0.2
2027	\$0.1	-	\$0.1
2030	\$0.2	-	\$0.2
2032	\$4.3	-	\$4.3
	Total Maj	or Rehabilitation Needs =	\$14.5

#### PAVEMENT CONDITION INDEX EXHIBIT



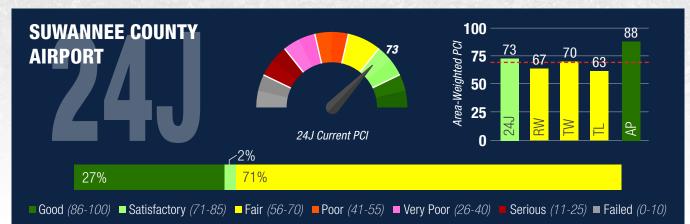
■ Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10)

#### MAJOR REHABILITATION EXHIBIT



■2021 ■2022 ■2023 ■2024 ■2025 ■2026 ■2027 ■2028 ■2029 ■2030 ■2031 ■2032

## **GENERAL AVIATION AIRPORTS**

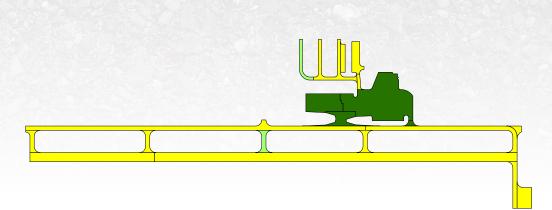


#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

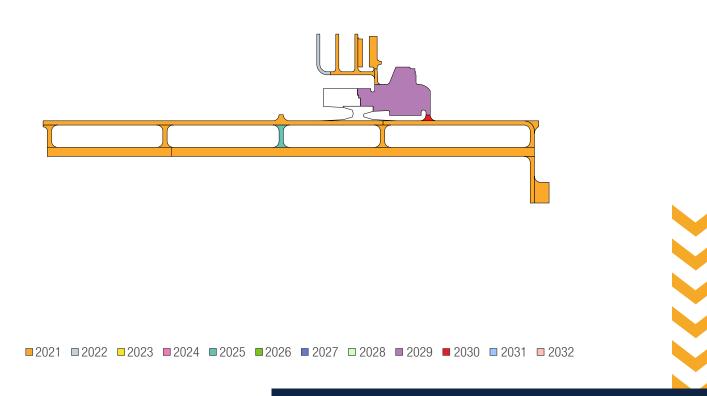
Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance (Total = \$7,340)	Surface Seal	14,654	SF	\$7,340
Localized Stopgap Maintenance (Total = \$7,800)	Surface Seal	15,586	SF	\$7,800
	Tota	I Localized Maintena	ance Needs =	\$15,140

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2021	\$4.0	-	\$4.0
2022	\$0.1	-	\$0.1
2025	\$0.1	-	\$0.1
2029	\$1.1	-	\$1.1
	Total Maj	or Rehabilitation Needs =	\$5.3

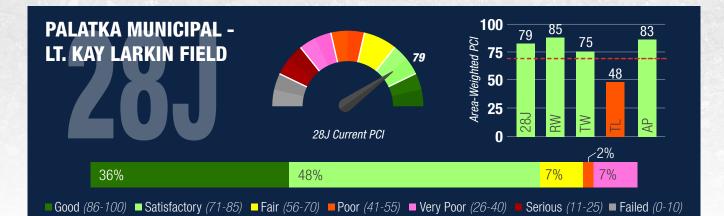
#### PAVEMENT CONDITION INDEX EXHIBIT



■Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10) MAJOR REHABILITATION EXHIBIT



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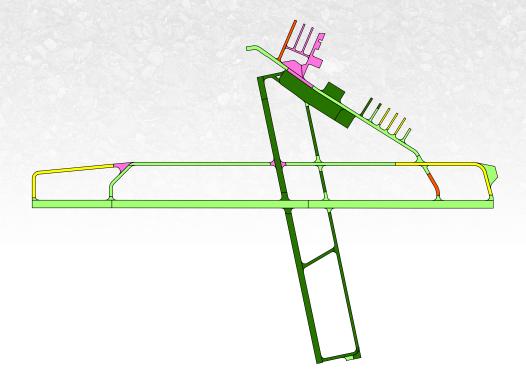


#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	AC Crack Sealing	203	LF	\$630
Localized Preventive Maintenance (Total = \$50,630)	Surface Seal	98,542	SF	\$49,390
	AC Full-Depth Patching	81	SF	\$610
Localized Stopgap Maintenance (Total = \$3,380)	AC Full-Depth Patching	450	SF	\$3,380
	Tota	Localized Maintena	ance Needs –	\$54 010

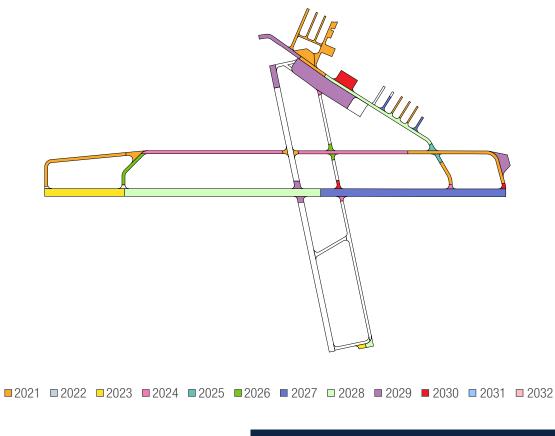
Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2021	\$0.9	\$1.7	\$2.6
2023	\$0.8	-	\$0.8
2024	\$1.0	-	\$1.0
2025	\$0.1	-	\$0.1
2026	\$0.2	-	\$0.2
2027	\$1.8	-	\$1.8
2028	\$2.3	-	\$2.3
2029	\$1.9	-	\$1.9
2030	\$0.3	-	\$0.3
	Total Maj	or Rehabilitation Needs =	\$11.0

#### PAVEMENT CONDITION INDEX EXHIBIT

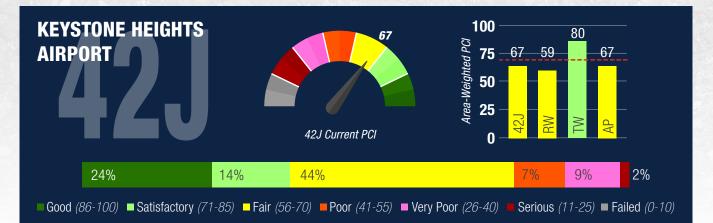


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#### MAJOR REHABILITATION EXHIBIT



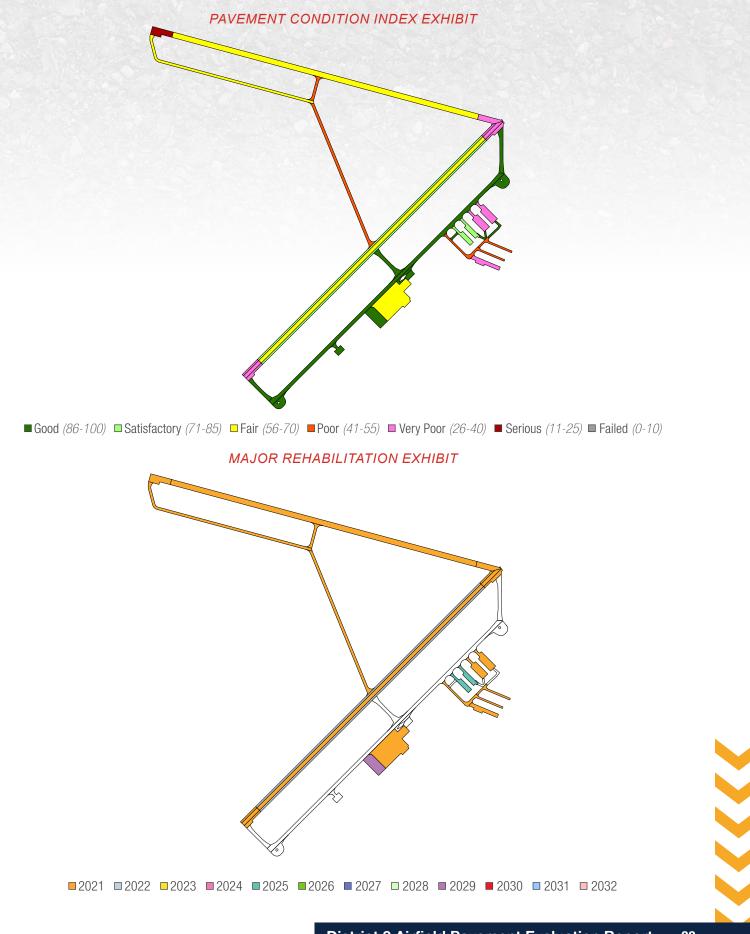
District 2 Airfield Pavement Evaluation Report 31

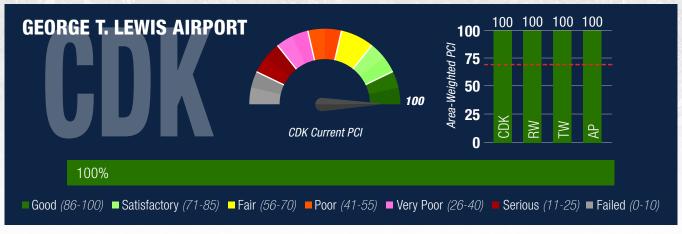


#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive	AC Crack Sealing	220	LF	\$660
Maintenance (Total = \$20,860)	Surface Seal	40,382	SF	\$20,200
	AC Full-Depth Patching	16,015	SF	\$120,120
	PCC Crack Sealing	4,928	LF	\$24,700
Localized Stopgap Maintenance (Total = \$202,160)	PCC Joint Seal	5,971	LF	\$19,420
$(10101 - \psi 202, 100)$	PCC Partial-Depth Patching	162	SF	\$20,240
	PCC Full-Depth Patching	353	SF	\$17,680
	Total	Localized Maintena	nce Needs =	\$223,020

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2021	\$6.9	\$4.9	\$11.8
2022	\$1.5	-	\$1.5
2025	\$0.3	-	\$0.3
2029	\$0.3	-	\$0.3
	Total Maj	or Rehabilitation Needs =	\$13.9





#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
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No Year 1 Localized Preventive or Stopgap Maintenance due to major rehabilitation completed on all pavements in 2020.

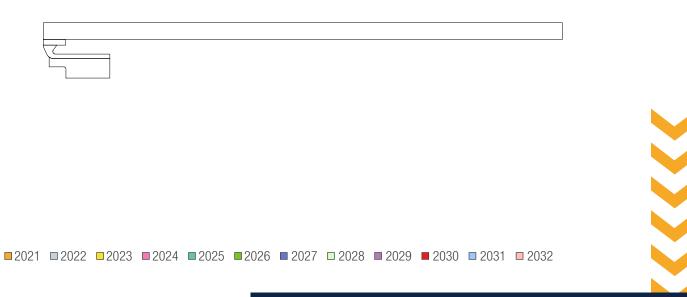
Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)			
No 10-Year Major Rehabilitation Needs						



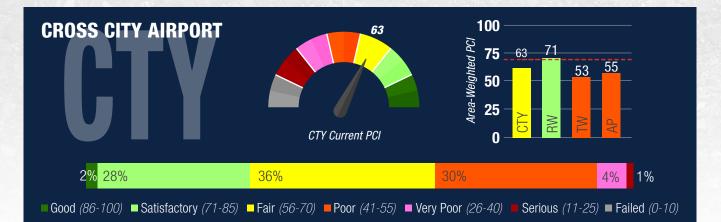


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#### MAJOR REHABILITATION EXHIBIT



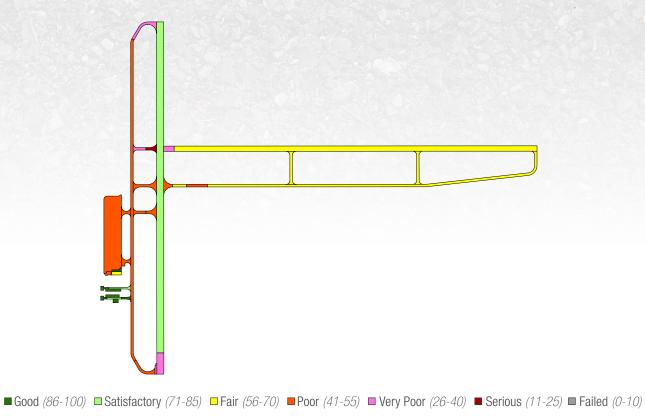
District 2 Airfield Pavement Evaluation Report 35



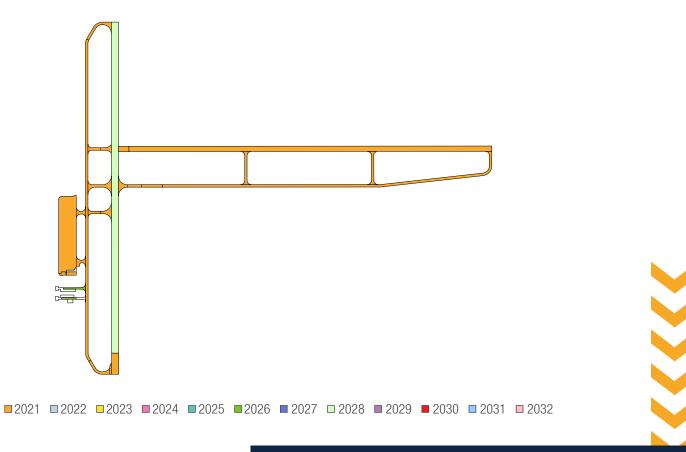
Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance (Total = \$4,990)	AC Crack Sealing	1,551	LF	\$4,660
	Surface Seal	652	SF	\$330
Localized Stopgap Maintenance (Total = \$34,200)	AC Crack Sealing	136	LF	\$420
	AC Partial-Depth Patching	618	SF	\$2,340
	AC Full-Depth Patching	127	SF	\$960
	PCC Crack Sealing	593	LF	\$2,980
	PCC Joint Seal	1,507	LF	\$4,910
	PCC Partial-Depth Patching	167	SF	\$21,090
	PCC Full-Depth Patching	30	SF	\$1,500
Total Localized Maintenance Needs =				

#### YEAR 1 LOCALIZED MAINTENANCE BY WORK TYPE SUMMARY

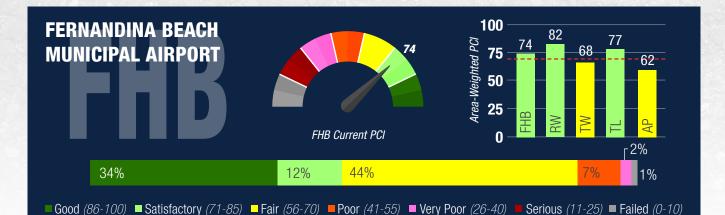
Program Year	Rehabilitation Cost	<b>Reconstruction Cost</b>	Total Cost (Millions)
2021	\$4.3	\$9.9	\$14.2
2026	\$0.1	-	\$0.1
2028	\$3.3	-	\$3.3
	Total Majo	\$17.6	



MAJOR REHABILITATION EXHIBIT



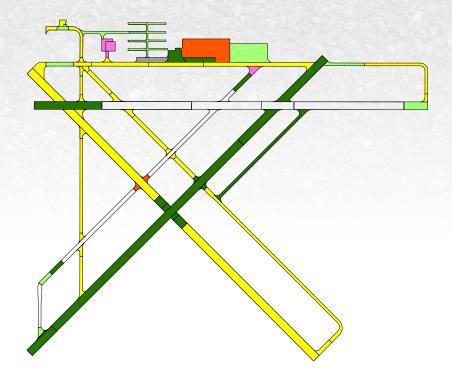
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Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	Surface Seal	39,120	SF	\$29,390
Localized Preventive Maintenance	AC Full-Depth Patching	25	SF	\$250
(Total = \$145,290)	PCC Joint Seal	24,007	LF	\$102,070
	PCC Partial-Depth Patching	Surface Seal39,120AC Full-Depth Patching25PCC Joint Seal24,007CC Partial-Depth Patching80AC Full-Depth Patching315PCC Crack Sealing1,600PCC Joint Seal1,940	SF	\$13,580
	AC Full-Depth Patching	315	SF	\$3,160
Localized Stopgap Maintenance	PCC Crack Sealing	1,600	LF	\$11,210
(Total = \$105,020)	PCC Joint Seal	1,940	LF	\$8,250
	PCC Slab Replacement	1,600	SF	\$82,400

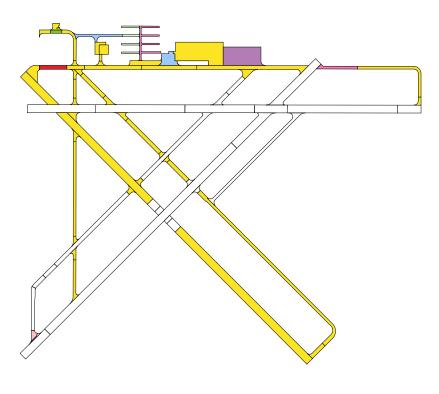
Total Localized Maintenance Needs = \$250,310

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2023	\$9.1	\$4.0	\$13.1
2024	\$0.4	-	\$0.4
2026	\$0.1	-	\$0.1
2028	\$0.2	-	\$0.2
2029	\$1.4	-	\$1.4
2030	\$0.2	-	\$0.2
2031	\$0.7	-	\$0.7
2032	\$0.1	-	\$0.1
	Total Maj	or Rehabilitation Needs =	\$16.2

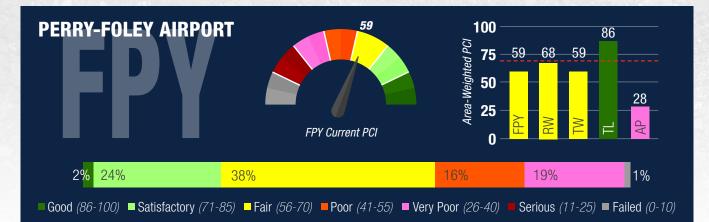


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# MAJOR REHABILITATION EXHIBIT

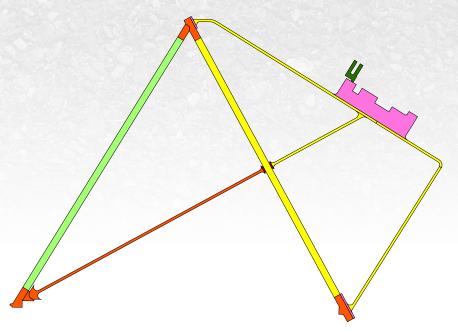


■2021 ■2022 ■2023 ■2024 ■2025 ■2026 ■2027 ■2028 ■2029 ■2030 ■2031 ■2032

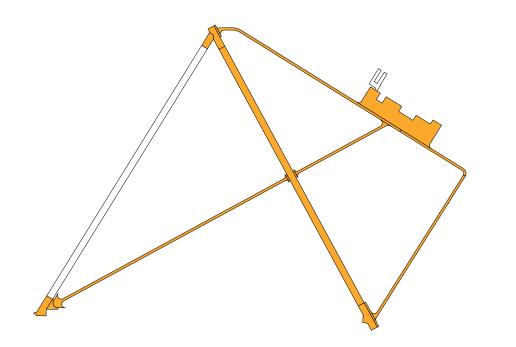


Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance (Total = \$390)	Surface Seal	760	SF	\$390
	AC Full-Depth Patching	182	SF	\$1,370
	PCC Crack Sealing	12,596	LF	\$63,020
Localized Stopgap Maintenance (Total = \$248,990)	PCC Joint Seal	26,580	LF	\$86,400
(	PCC Partial-Depth Patching	563	SF	\$70,550
	PCC Full-Depth Patching	553	SF	\$27,650
	Total	Localized Maintena	nce Needs =	\$249,380

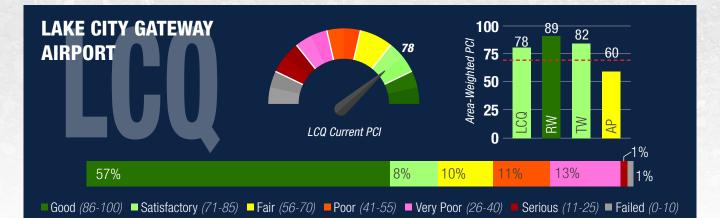
Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2021	\$5.2	\$12.8	\$18.0
	Total Maj	\$18.0	



■ Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10) MAJOR REHABILITATION EXHIBIT

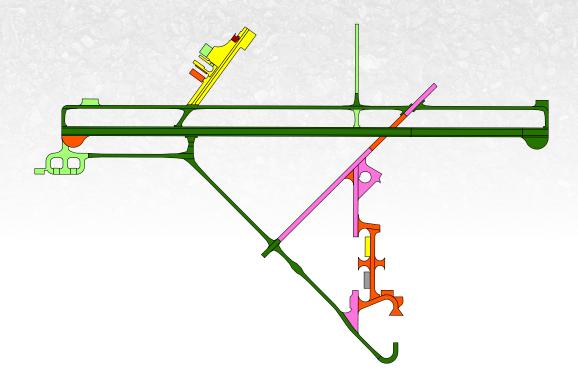


■2021 ■2022 ■2023 ■2024 ■2025 ■2026 ■2027 ■2028 ■2029 ■2030 ■2031 ■2032



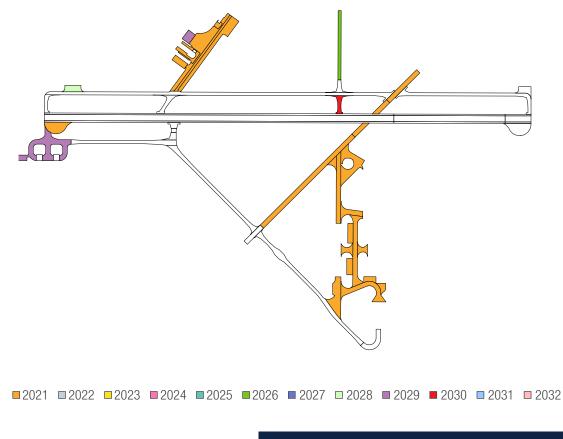
Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	AC Crack Sealing	222	LF	\$670
Localized Preventive Maintenance (Total = \$12,210)	Surface Seal	9,577	SF	\$4,800
	PCC Joint Seal	2,072	LF	\$6,740
Localized Stopgap Maintenance	AC Partial-Depth Patching	1,323	SF	\$4,970
(Total = \$66,630)	AC Full-Depth Patching	8,217	SF	\$61,660
	Total	Localized Maintena	ance Needs =	\$78,840

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2021	\$2.7	\$10.2	\$12.9
2026	\$0.4	-	\$0.4
2028	\$0.2	-	\$0.2
2029	\$1.3	-	\$1.3
2030	\$0.2	-	\$0.2
	Total Maj	or Rehabilitation Needs =	\$15.0



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# MAJOR REHABILITATION EXHIBIT



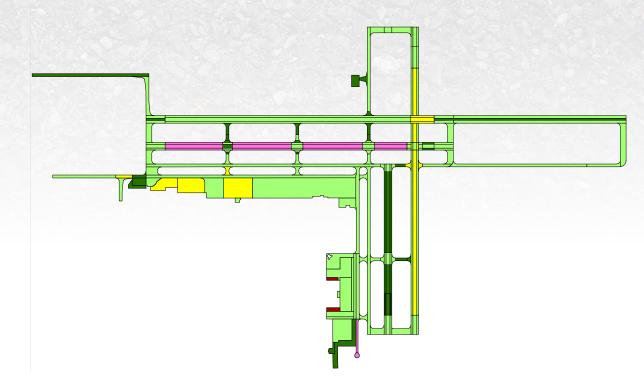


TEAR TEOCALIZED MAINTENANCE BT WORK THE SOMMART				
Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	AC Crack Sealing	2,164	LF	\$6,510
	Surface Seal	18,453	SF	\$9,260
Localized Preventive	PCC Crack Sealing	287	LF	\$1,440
Maintenance	PCC Joint Seal	424,123	LF	\$1,378,660
(Total = \$4,222,790)	Grinding	86	LF	\$180
	PCC Partial-Depth Patching	14,987	SF	\$1,873,860
	PCC Full-Depth Patching	19,055	SF	\$952,880
	AC Full-Depth Patching	859	SF	\$6,450
Lesslined Oten new Meintenen	PCC Crack Sealing	3,308	LF	\$16,580
Localized Stopgap Maintenance (Total = \$139,230)	PCC Joint Seal	3,437	LF	\$11,180
(10101 – \$100,200)	PCC Partial-Depth Patching	558	SF	\$69,800
	PCC Full-Depth Patching	704	SF	\$35,220
	Total	Localized Maintena	ance Needs =	\$4,362,020

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2021	\$9.8	\$13.5	\$23.3
2022	\$8.2	-	\$8.2
2023	\$0.8	-	\$0.8
2024	\$18.4	-	\$18.4
2025	\$1.4	-	\$1.4
2026	\$2.9	-	\$2.9
2027	\$22.3	-	\$22.3
2028	\$1.3	-	\$1.3
2029	\$8.7	-	\$8.7
2030	\$25.1	-	\$25.1
	Total Maj	or Rehabilitation Needs =	\$112.4

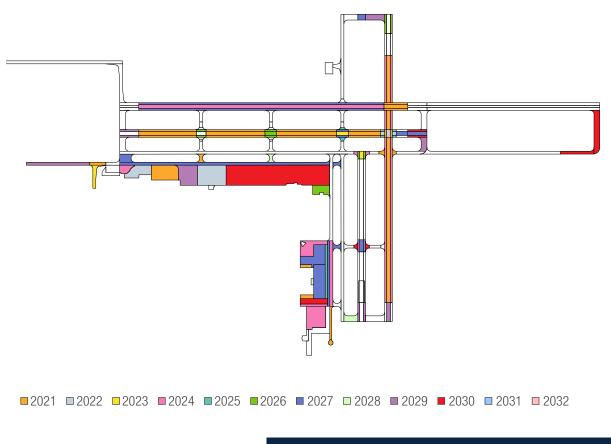
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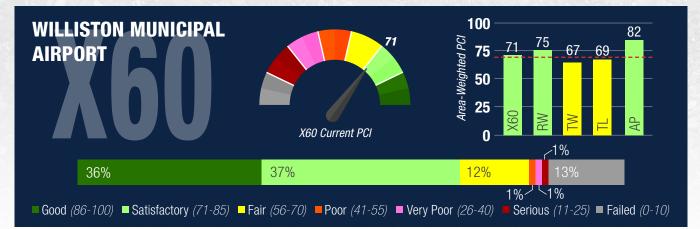
Statewide Airfield Pavement Management Program



■ Good (86-100) ■ Satisfactory (71-85) ■ Fair (56-70) ■ Poor (41-55) ■ Very Poor (26-40) ■ Serious (11-25) ■ Failed (0-10)

# MAJOR REHABILITATION EXHIBIT

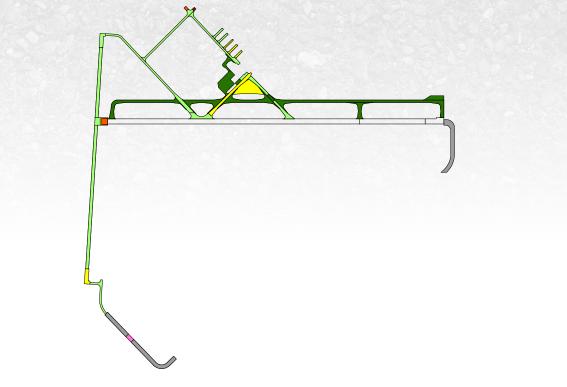




Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
	Surface Seal	52,740	SF	\$39,630
Localized Preventive Maintenance (Total = \$56,230)	PCC Joint Seal	3,088	LF	\$13,130
	PCC Partial-Depth Patching	21	SF	\$3,470
	AC Crack Sealing	12,192	LF	\$48,780
	AC Partial-Depth Patching	222,984	SF	\$1,059,190
Localized Stopgap Maintenance (Total = \$1,124,760)	AC Full-Depth Patching	402	SF	\$4,020
(1000) = \$1,121,100	PCC Crack Sealing	371	LF	\$2,610
	PCC Joint Seal	2,388	LF	\$10,160
	Tetel	Localized Maintone	Neede	¢1 100 000

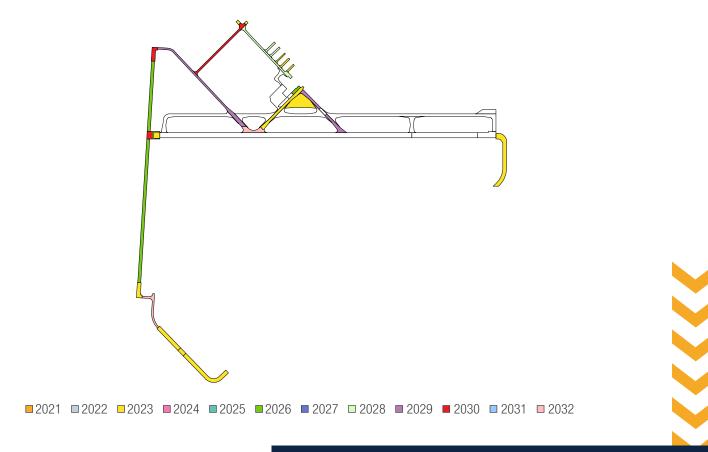
Total Localized Maintenance Needs = \$1,180,990

Program Year	Rehabilitation Cost	Reconstruction Cost	Total Cost (Millions)
2023	\$1.6	\$5.0	\$6.6
2026	\$2.8	-	\$2.8
2028	\$0.9	-	\$0.9
2029	\$2.0	-	\$2.0
2030	\$1.4	-	\$1.4
2032	\$1.0	-	\$1.0
	Total Maj	or Rehabilitation Needs =	\$14.7



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# MAJOR REHABILITATION EXHIBIT



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