

Greenfield Municipal Airport



IOWA | DOT

Pavement Management Report

PREPARED BY

Applied Pavement Technology, Inc.
1908 South First Street, Suite 201
Champaign, Illinois 61820
(217) 398-3977
www.appliedpavement.com

AUGUST 2025



The preparation of this document was financed in part through an Airport Improvement Program grant from the Federal Aviation Administration (Project Number 3-19-0000-032-2024) as provided under Section 505 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the DOT's official views or the policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate the proposed development is environmentally acceptable in accordance with appropriate public laws

GREENFIELD MUNICIPAL AIRPORT PAVEMENT MANAGEMENT REPORT

Prepared For:



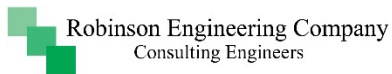
Iowa Department of Transportation
Modal Transportation Bureau
800 Lincoln Way
Ames, Iowa 50010
515-239-1101
<https://iowadot.gov/modes-travel/aviation>

Prepared By:



Applied Pavement Technology, Inc.
1908 South First Street, Suite 201
Champaign, Illinois 61820
217-398-3977
<https://www.appliedpavement.com>

In Association With:



Robinson Engineering Company
Consulting Engineers
819 Second Street NE
Independence, Iowa 50644
319-334-7211

TABLE OF CONTENTS

INTRODUCTION.....	1
PAVEMENT INVENTORY.....	3
PAVEMENT EVALUATION.....	6
Pavement Evaluation Procedure	6
Pavement Evaluation Results.....	8
Inspection Comments.....	13
Runways	13
Taxiways	13
Aprons.....	13
T-Hangars	13
PAVEMENT MAINTENANCE AND REHABILITATION PROGRAM	15
Analysis Parameters.....	15
Critical PCIs	15
Localized Preventive Maintenance Policies and Unit Costs	15
Major Rehabilitation Unit Costs.....	15
Budget and Inflation Rate.....	15
Analysis Approach.....	15
Analysis Results	16
General Maintenance Recommendations.....	17
FAA Requirements (Public Law 103-305).....	17
FAA Advisory Circular 150/5830-7B, Appendix A. Pavement Management Program	18
SUMMARY	23
REFERENCES.....	24

LIST OF FIGURES

Figure 1. Pavement condition versus cost of repair.	1
Figure 2. Pavement area by branch use at Greenfield Municipal Airport.	4
Figure 3. Greenfield Municipal Airport network definition map.	5
Figure 4. Visual representation of PCI scale on typical pavement surfaces.	6
Figure 5. PCI versus repair type.....	7
Figure 6. Pavement area by PCI range at Greenfield Municipal Airport.	8
Figure 7. Area-weighted PCI by branch use at Greenfield Municipal Airport.....	9
Figure 8. Greenfield Municipal Airport PCI map.	10

LIST OF TABLES

Table 1. 2025 pavement evaluation results.....	11
Table 2. 5-year M&R program under an unlimited funding analysis scenario.	16
Table 3. Pavement inspection report.....	20

APPENDIXES

Appendix A. Cause of Distress TablesA-1

Appendix B. Inspection PhotographsB-1

Appendix C. Inspection Report..... C-1

Appendix D. Work History Report D-1

Appendix E. Localized Preventive Maintenance Policies and Unit Cost Tables.....E-1

Appendix F. Year 2025 Localized Preventive Maintenance Details F-1

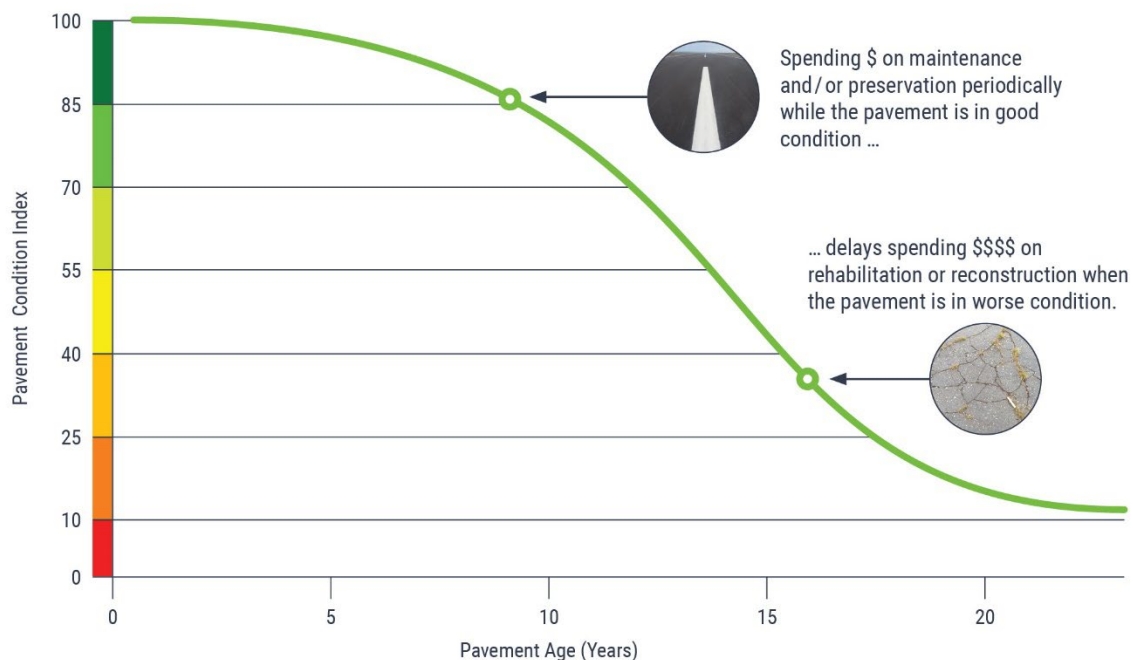
INTRODUCTION

Applied Pavement Technology, Inc. (APTech), with assistance from Robinson Engineering Company Consulting Engineers (Robinson), updated the Airport Pavement Management System (APMS) for the Iowa Department of Transportation, Modal Transportation Bureau (Iowa DOT). The APMS provides a means to monitor the condition of the pavements within the State of Iowa and to proactively plan for their preservation.

As part of this project, pavement conditions at Greenfield Municipal Airport were visually assessed in March 2025 using the Pavement Condition Index (PCI) procedure. During a PCI inspection, the types, severities, and amounts of distress present on the pavement surface are quantified. This information is then used to develop a composite index that represents the overall condition of the pavement in numerical terms, ranging from 0 (*Failed*) to 100 (*Excellent*). The PCI provides an overall measure of condition and an indication of the level of work that will be required to maintain or repair a pavement. The distress information also provides insight into what is causing the pavement to deteriorate, which is the first step in selecting the appropriate repair action to correct the problem.

Programmed into an APMS, PCI data and results are used to determine when preventive maintenance actions (such as crack or joint sealing) are advisable and to identify the most cost-effective time to perform major rehabilitation (such as an overlay or whitetopping). Delaying maintenance and rehabilitation (M&R) until a pavement structure has seriously degraded can cost many times more than if M&R was applied earlier in a pavement's life cycle, as shown in Figure 1. From a safety perspective, pavement distresses, such as cracks and loose debris, may pose risks in terms of the potential for aircraft tire damage and the ability of a pilot to safely control aircraft.

Figure 1. Pavement condition versus cost of repair.



The pavement evaluation results for Greenfield Municipal Airport are presented within this report and can be used by Greenfield Municipal Airport, the Iowa DOT, and the Federal Aviation Administration (FAA) to identify, prioritize, and schedule pavement M&R actions at the airport. In addition to this report, the web-based interactive pavement data visualization tool IDEA, containing the information collected during this project, was updated and may be accessed from the [Iowa DOT's website](#) or directly ([Iowa APMS IDEA](#)).

PAVEMENT INVENTORY

The project began with a review of the existing inventory information pertaining to the pavements at Greenfield Municipal Airport. The date of original construction, along with the date of any subsequent rehabilitation; the location of completed work; and the type of work undertaken were gathered. The information was used to update the pavement management database and associated maps, as necessary, to account for pavement-related work that had been undertaken since the last time the airport was evaluated in 2021.

The pavement network at Greenfield Municipal Airport was then divided into branches, sections, and sample units. A branch is a single entity that serves a distinct function. For example, a runway is considered a branch because it serves a single function (allowing aircraft to take off and land). Taxiways, aprons, and T-hangars are also separate branches.

Each branch was further divided into sections. Traditionally, sections are defined as parts of the branch that share common attributes, such as cross section, date of last construction, traffic level, and performance. Using this approach, if a runway was built in 1968 and then extended in 1984, it would contain two separate sections.

To estimate the overall condition of a pavement section, each section was subdivided into sample units. Portions of these sample units were evaluated during the pavement inspection, and the collected information was extrapolated to predict the overall section condition and quantities of distress.

Approximately 492,000 square feet of pavement were evaluated at Greenfield Municipal Airport, as illustrated in Figure 2. This figure also shows the area-weighted age in years of the pavements at the time of the inspection. Figure 3 provides a map that details how the pavement network was divided into management units and identifies the sample units that were evaluated during the pavement inspection at Greenfield Municipal Airport.

Figure 2. Pavement area by branch use at Greenfield Municipal Airport.

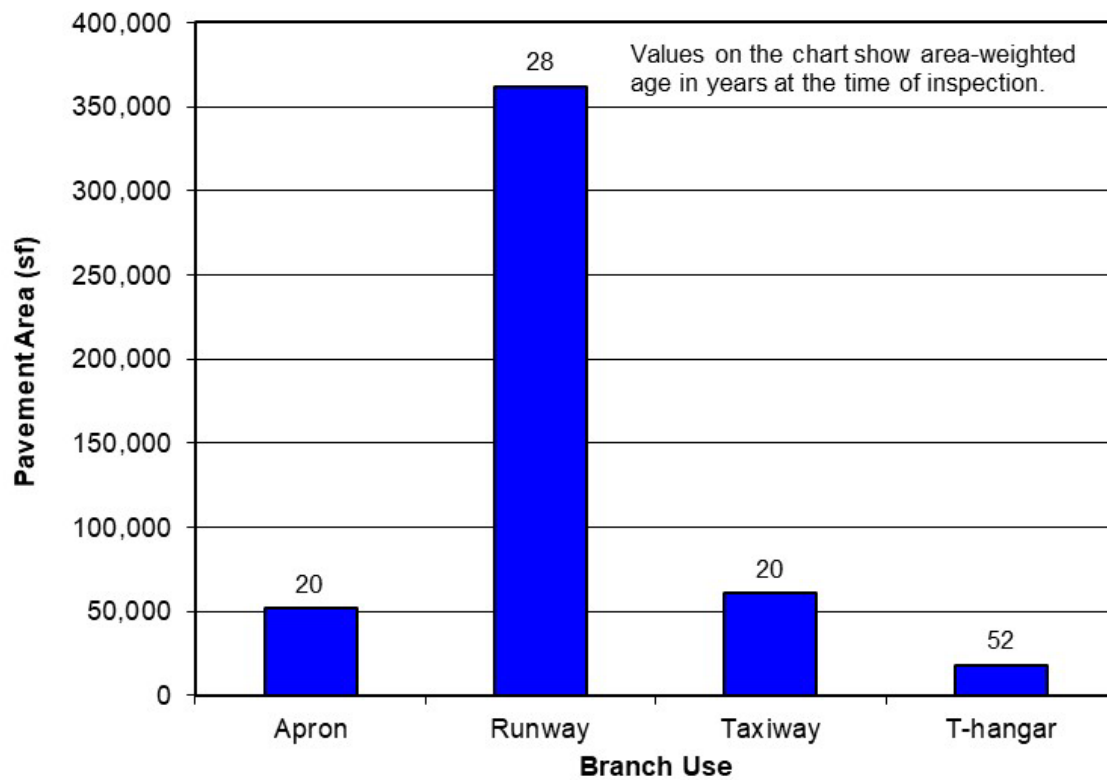
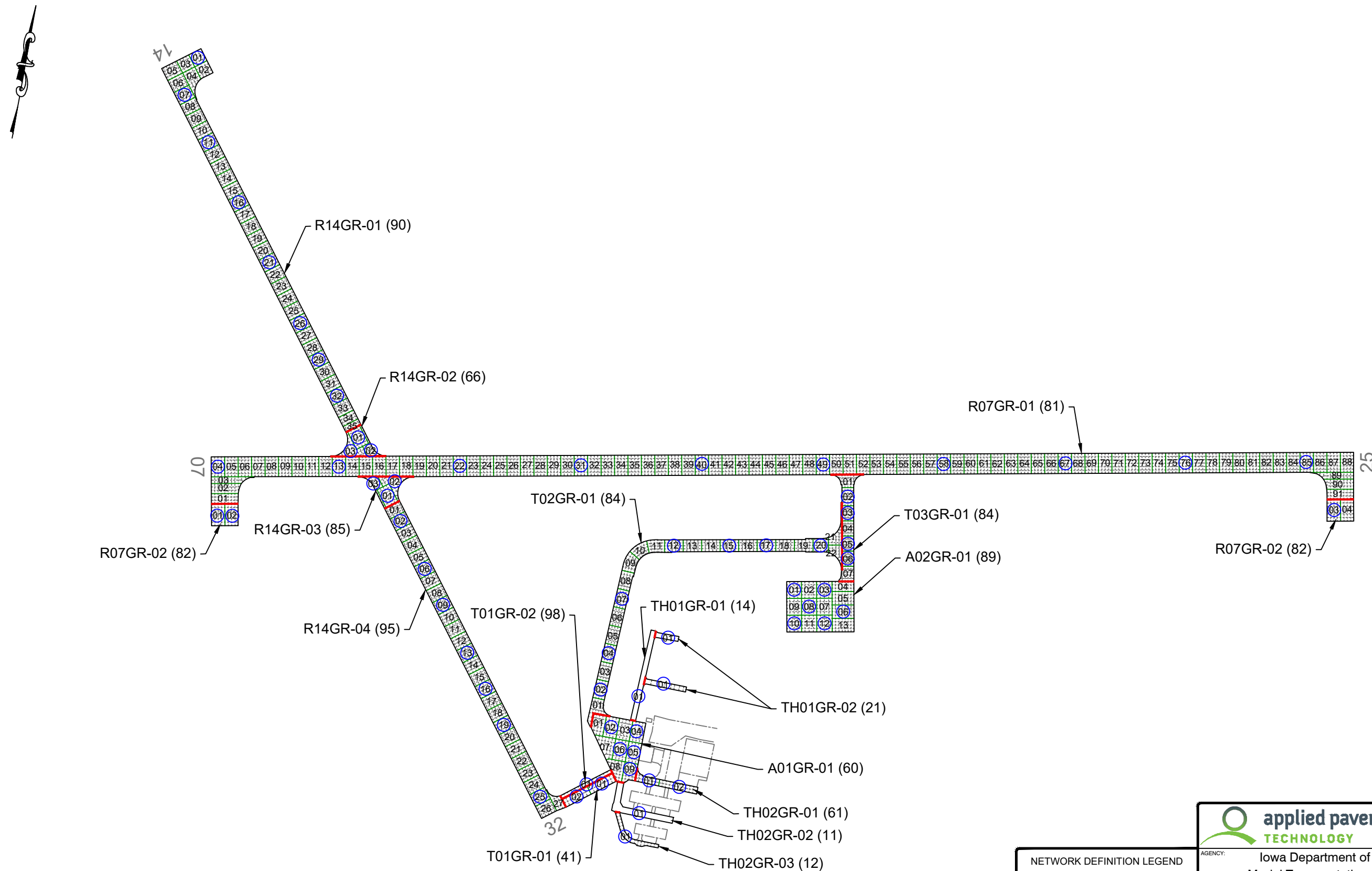


FIGURE 3. NETWORK DEFINITION MAP.



NETWORK DEFINITION LEGEND			
	BRANCH IDENTIFIER		
	SECTION IDENTIFIER		
	PCI VALUE		
	SECTION BREAK LINE		
	SAMPLE UNIT BREAK LINE		
	SLAB JOINT		
	SAMPLE UNIT NUMBER		
	SAMPLE UNIT INSPECTED		
	ADDITIONAL SAMPLE UNIT		

1908 South First Street, Suite 201
Champaign, IL 61820
Tel: 217-398-3977
Fax: 217-398-4027

AGENCY: Iowa Department of Transportation Modal Transportation Bureau - Aviation			
LOCATION: Greenfield Municipal Airport Greenfield, Iowa			
PAGE TITLE: Network Definition Map			
PROJECT DATE: NOV. 2024	CREATION DATE: NOV. 2024	PROJECT MANAGER: LJR	JOB NUMBER: 2021-125-AM03
DRAWING SCALE: 1"=300'	LAST MODIFIED DATE: JAN. 2025	REVISED BY: KEW	DRAWN BY: KEW
FILENAME: Greenfield.dwg		LAYOUT NAME/NUMBER: NET. DEF.	PAGE NUMBER: 5

PAVEMENT EVALUATION

Pavement Evaluation Procedure

APTech visually inspected the pavements at Greenfield Municipal Airport using the PCI procedure described in:

- FAA Advisory Circular 150/5380-6C, [*Guidelines and Procedures for Maintenance of Airport Pavements*](#).
- FAA Advisory Circular 150/5380-7B, [*Airport Pavement Management Program \(PMP\)*](#).
- ASTM D5340, *Standard Test Method for Airport Pavement Condition Index Surveys*.

During the PCI inspection, a cursory inspection of the entirety of a pavement section was performed. Sample units identified for more detailed inspection were verified, and adjustments to the selected sample units for inspection were made as needed to ensure an accurate assessment of the pavement's condition. Data pertaining to the types, severities, and quantities of observed pavement distresses were then collected within each sample unit. These data were then used to calculate the composite PCI of each pavement section. The PCI provides a numerical indication of overall pavement condition, as illustrated in Figure 4. The PCI ranges from a value of 0, which represents a pavement in a *Failed* condition, to a value of 100, which represents a pavement in *Excellent* condition with no visible signs of deterioration. It is important to note that factors other than overall PCI need to be considered when identifying the appropriate type of repair, including types of distress present and rate of deterioration. Also, since the PCI does not assess the structural integrity or capacity of the pavement structure, further testing may be needed to validate and refine the treatment strategy.

Figure 4. Visual representation of PCI scale on typical pavement surfaces.



Note: Photographs shown are not specific to Greenfield Municipal Airport.

Generally, pavements with relatively high PCIs that are not exhibiting significant load-related distress will benefit from preventive maintenance actions, such as crack sealing or joint resealing. As the PCI drops, the pavements may require major rehabilitation, such as an overlay or whitetopping. In some situations where the PCI has dropped low enough, reconstruction may be the only viable alternative due to the substantial damage to the pavement structure. Figure 5 illustrates how the appropriate repair type varies with the PCI of a pavement section and provides the corresponding colors used for the maps and charts in this report for each range of PCIs.

Figure 5. PCI versus repair type.

PCI Range	Repair
86-100	Preventive Maintenance
71-85	
56-70	
41-55	Major Rehabilitation
26-40	
11-25	Reconstruction
0-10	

The types of distress identified during the PCI inspection provide insight into the cause of pavement deterioration, which is useful when selecting M&R strategies. Understanding the cause of distress helps in selecting a rehabilitation alternative that corrects the cause and thus eliminates or delays its recurrence. PCI distress types are characterized as:

- **Load-related**—These distress types are defined as being caused by aircraft or vehicular traffic and may indicate a structural deficiency. Examples of load-related distress include alligator cracking on asphalt-surfaced pavements and corner breaks on portland cement concrete (PCC) pavements.
- **Climate/durability-related**—These distress types often signify the presence of aged or environmentally susceptible (or both) material and include durability-related issues. Examples of climate/durability-related distress include weathering on asphalt-surfaced pavements, which is climate-related, and durability cracking on PCC pavements, which is durability-related.
- **Other**—Distress types that fall into this category cannot be attributed solely to load or climate/durability. Examples of this type of distress include depressions on asphalt-surfaced pavements and shrinkage cracking on PCC pavements.

Appendix A identifies the distress types considered during a PCI inspection and describes the likely cause of each distress type. It should be noted that a PCI is based on visual signs of pavement deterioration and does not provide a measure of structural capacity.

Pavement Evaluation Results

The pavements at Greenfield Municipal Airport were inspected in March 2025. The 2025 area-weighted condition of Greenfield Municipal Airport is 81, with conditions ranging from 11 to 98 (on a scale of 0 [failed] to 100 [excellent]). During the previous pavement inspection in 2021, the area-weighted PCI of the airport was 87.

Figure 6 summarizes the overall condition of the pavements at Greenfield Municipal Airport, and Figure 7 presents area-weighted condition (average PCI adjusted to account for the relative size of the pavement sections) by branch use. Figure 8 is a map that displays the condition of the evaluated pavements. Table 1 summarizes the results of the pavement evaluation. Appendix B presents photographs taken during the PCI inspection, and Appendix C contains detailed information on the distress types observed during the visual survey. Appendix D includes detailed work history information that was collected during the record review process.

Figure 6. Pavement area by PCI range at Greenfield Municipal Airport.

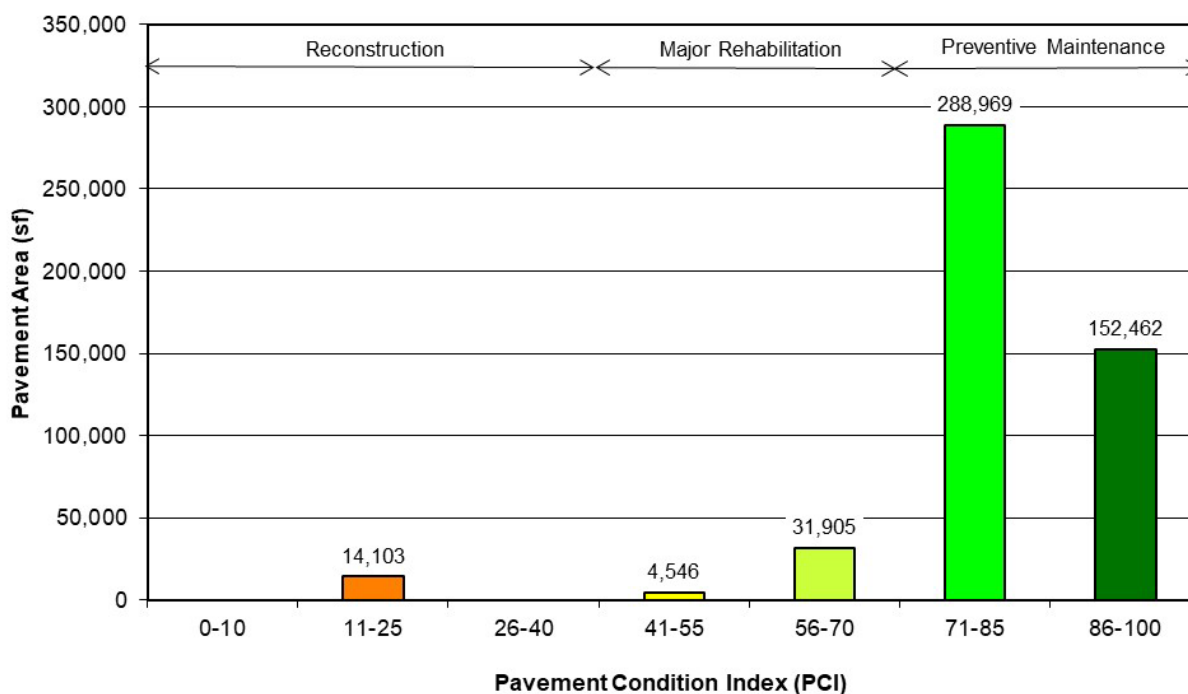


Figure 7. Area-weighted PCI by branch use at Greenfield Municipal Airport.

(Values on chart are area weighted.)

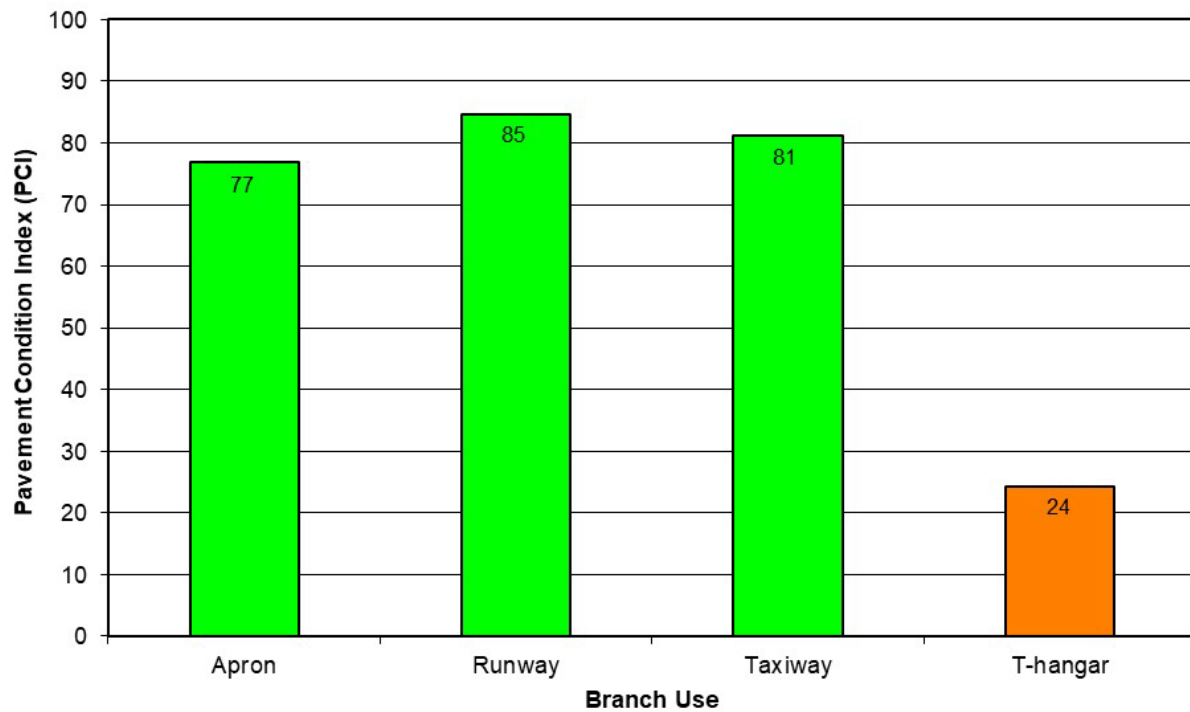
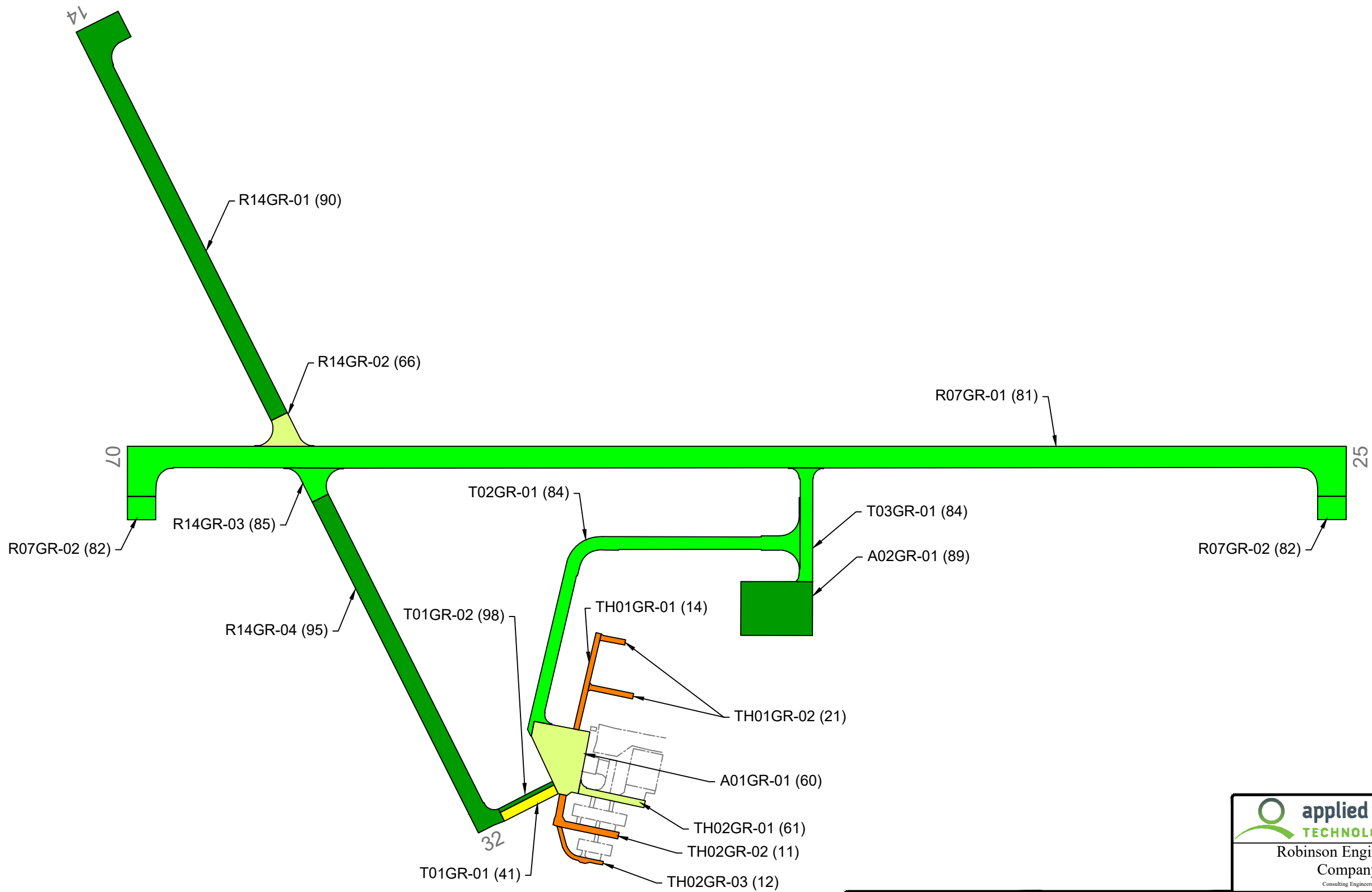


FIGURE 8. PCI MAP.



LEGEND

BRANCH IDENTIFIER

SECTION IDENTIFIER

PCI VALUE

SECTION BREAK LINE

PAVEMENT CONDITION INDEX

PCI

86-100
71-85
56-70
41-55
26-40
11-25
0-10

applied pavement TECHNOLOGY

1908 South First Street, Suite 201
Champaign, IL 61820
Tel: 217-398-3977
Fax: 217-398-4027

Robinson Engineering Company

819 Second Street NE
Independence, IA 50644
Tel: (563) 920-5382

AGENCY: Iowa Department of Transportation
Modal Transportation Bureau - Aviation

LOCATION: Greenfield Municipal Airport
Greenfield, Iowa

PAGE TITLE: 2025 Pavement Condition Index Map

PROJECT DATE: NOV. 2024	CREATION DATE: NOV. 2024	PROJECT MANAGER: LJR	JOB NUMBER: 2021-125-AM03
DRAWING SCALE: 1"=300'	LAST MODIFIED DATE: JUN. 2025	REVISED BY: KEW	DRAWN BY: KEW
FILENAME: Greenfield.dwg		LAYOUT NAME/NUMBER: PCI	PAGE NUMBER: 10

Table 1. 2025 pavement evaluation results.

Branch	Section	Surface Type	Section Area (sf)	LCD	2025 PCI	% Distress Due to Load	% Distress Due to Climate/Durability	% Distress Due to Other	Type of Distress
A01GR	01	PCC	21,725	6/2/2003	60	6	29	65	ASR, Corner Spalling, Joint Seal Damage, Large Patch, LTD Cracking
A02GR	01	PCC	30,000	6/2/2006	89	11	83	6	Corner Break, Corner Spalling, Joint Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking
R07GR	01	PCC	218,192	6/1/1994	81	6	28	66	ASR, Corner Break, Corner Spalling, Faulting, Joint Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking, Small Patch
R07GR	02	PCC	10,294	6/3/2013	82	69	31	0	Joint Seal Damage, LTD Cracking
R14GR	01	PCC	67,174	9/1/2001	90	29	12	59	ASR, Corner Break, Corner Spalling, Joint Spalling, Joint Seal Damage, LTD Cracking
R14GR	02	PCC	6,339	6/1/1994	66	51	16	33	ASR, Corner Break, Corner Spalling, Joint Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking, Small Patch
R14GR	03	PCC	6,431	6/1/1994	85	31	42	27	Corner Break, Corner Spalling, Joint Spalling, Joint Seal Damage, Large Patch, LTD Cracking, Shrinkage Cracking
R14GR	04	PCC	53,372	9/1/2001	95	18	33	49	ASR, Corner Spalling, Joint Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking
T01GR	01	PCC	4,546	6/1/1994	41	38	3	59	Corner Break, Faulting, Joint Spalling, Joint Seal Damage, LTD Cracking
T01GR	02	PCC	1,916	9/5/1998	98	0	100	0	Joint Seal Damage
T02GR	01	PCC	42,229	6/2/2006	84	20	30	50	ASR, Corner Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking

Table 1. 2025 pavement evaluation results (continued).

Branch	Section	Surface Type	Section Area (sf)	LCD	2025 PCI	% Distress Due to Load	% Distress Due to Climate/ Durability	% Distress Due to Other	Type of Distress
T03GR	01	PCC	11,823	6/2/2006	84	5	35	60	ASR, Corner Break, Faulting, Joint Spalling, Joint Seal Damage, Large Patch
TH01GR	01	AC	4,132	1/1/1965	14	30	58	12	Alligator Cracking, Depression, L&T Cracking, Patching, Raveling
TH01GR	02	PCC	2,989	1/1/1965	21	81	9	10	ASR, Corner Break, Joint Seal Damage, LTD Cracking, Shattered Slab
TH02GR	01	PCC	3,841	1/1/2003	61	10	22	68	ASR, Joint Seal Damage, LTD Cracking
TH02GR	02	AC	4,815	1/1/1965	11	79	21	0	Alligator Cracking, L&T Cracking, Rutting, Weathering
TH02GR	03	PCC	2,167	1/1/1965	12	83	8	9	Corner Break, Joint Spalling, Joint Seal Damage, LTD Cracking, Shattered Slab

Table Notes:

1. See Figure 3 for the location of the branch and section.
2. Surface Type: AC = asphalt cement concrete; AAC = asphalt overlay on AC; PCC = portland cement concrete; APC = asphalt overlay on PCC.
3. LCD = last construction date.
4. Distress due to load includes distress types that are attributed to a structural deficiency in the pavement, such as alligator cracking or rutting on asphalt-surfaced pavements or shattered slabs on PCC pavements.
5. Distress due to climate or durability includes distress types that are attributed to either the aging of the pavement and the effects of the environment (such as weathering, raveling, or block cracking on asphalt-surfaced pavements) or to a materials-related problem (such as durability cracking or alkali-silica reaction [ASR] on PCC pavements). If materials-related distresses were recorded during the inspection, further laboratory testing is required to definitively determine the type present.
6. Distress due to other refers to distress types that are not attributed to one factor but rather may be caused by a combination of factors.
7. Distress types are defined by ASTM D5340. L&T cracking = longitudinal and transverse cracking; LTD cracking = longitudinal, transverse, and diagonal cracking; ASR = alkali-silica reaction.

Inspection Comments

Greenfield Municipal Airport was inspected on March 30, 2025. There were 17 pavement sections defined during the inspection. Alkali-silica reaction (ASR) was recorded at this airport according to the PCI procedure. The ASR was recorded where evidence of a precipitate was observed within some of the cracking in the PCC surface. It should be noted that laboratory testing in the form of petrographic analysis is the only definitive way to validate the presence of ASR; however, the formation of a precipitate is evidence of a reaction consistent with this type of materials-related distress.

Runways

Runway 07/25 consisted of two sections. Low- and medium-severity ASR, joint seal damage, and corner spalling; low-severity corner break, faulting, small patching, and longitudinal, transverse, diagonal (LTD) cracking; medium-severity joint spalling; and shrinkage cracking were observed in Section 01. Medium-severity joint seal damage and low- and medium-severity LTD cracking were noted in Section 02.

Runway 14/32 contained four sections. Section 01, located north of Runway 07/25, had low-severity ASR, corner break, and joint seal damage; low- and medium-severity corner spalling and LTD cracking; and medium-severity joint spalling. In Section 02, areas of low-severity ASR, small patching, and joint spalling; low- and medium-severity corner break and LTD cracking; all severities of corner spalling; medium-severity joint seal damage; and shrinkage cracking were observed. Medium-severity joint seal damage; low-severity corner break, corner spalling, joint spalling, large patching, and LTD cracking; and shrinkage cracking were recorded in Section 03. Section 04, connected Taxiway 01 and 02, had medium-severity joint spalling; low-severity ASR, corner spalling, joint seal damage, and LTD cracking; and shrinkage cracking.

Taxiways

Taxiway 01 was defined by two sections. Section 01 was in *Poor* condition with low-severity corner break and joint seal damage, medium-severity faulting, and low- and medium-severity joint spalling and LTD cracking recorded at the time of inspection. Section 02 was in *Excellent* condition with only low-severity joint seal damage observed.

Taxiway 02 consisted of one section that connected Taxiway 03 to Apron 01. Low- and medium-severity ASR and LTD cracking, medium-severity corner spalling and joint seal damage, and shrinkage cracking were identified in Section 01.

Taxiway 03 was comprised of one section that had medium-severity joint seal damage and low-severity ASR, corner break, faulting, joint spalling, and large patching.

Aprons

Apron 01 consisted of one section that contained low- and medium-severity ASR, LTD cracking, and corner spalling; medium- and high-severity joint seal damage; and low-severity large patching.

Apron 02 contained one section with areas of medium- and high-severity joint seal damage; low-severity corner break, corner spalling, joint spalling, and LTD cracking; and shrinkage cracking observed during the inspection.

T-Hangars

T-hangar 01 was defined by two sections that were both in *Poor* condition. Section 01 had medium-severity alligator cracking and raveling, high-severity depression, and medium- and

high-severity patching and longitudinal and transverse (L&T) cracking. The medium-severity L&T cracking was unsealed, while the high-severity L&T cracking was observed where crack widths exceeded 3 inches. Low-severity ASR and corner break, high-severity joint seal damage, and low- and medium-severity LTD cracking and shattered slab were recorded in Section 02.

T-hangar 02 consisted of three sections with Section 01 having areas of low- and medium-severity ASR, high-severity joint seal damage, and low-severity LTD cracking. Section 02 was in *Poor* condition with areas of medium- and high-severity alligator cracking, medium-severity L&T cracking where unsealed crack widths exceeded 1/4 inch, low-severity rutting, and medium-severity weathering noted. Section 03 had low-severity corner break, high-severity joint seal damage and joint spalling, low- and medium-severity LTD cracking, and all severities of shattered slabs.

PAVEMENT MAINTENANCE AND REHABILITATION PROGRAM

Using the information collected during the pavement inspection, the PAVER pavement management software was used to develop a 5-year M&R program for Greenfield Municipal Airport. In addition, a 1-year plan for localized preventive maintenance (such as crack sealing and patching) was prepared.

Analysis Parameters

Critical PCIs

PAVER uses critical PCIs to determine whether localized preventive maintenance or major rehabilitation is the appropriate repair action. Above the critical PCI, localized preventive maintenance activities are recommended. Below the critical PCI, major rehabilitation actions, such as an overlay or reconstruction, are recommended. The Iowa DOT set the critical PCIs at 65 for runways, 60 for taxiways, and 55 for aprons and T-hangars.

Localized Preventive Maintenance Policies and Unit Costs

Localized preventive maintenance policies were developed for asphalt-surfaced and PCC pavements. These policies, shown in Appendix E, identify the localized preventive maintenance actions that the Iowa DOT considered appropriate to correct the different distress types and severities. The Iowa DOT provided unit costs for each of the localized preventive maintenance actions included in these policies, and these costs are detailed in Appendix E. Please note that this information is of a general nature for the entire State. The localized preventive maintenance policies and unit costs may require adjustments to reflect specific conditions at Greenfield Municipal Airport.

Major Rehabilitation Unit Costs

PAVER estimates the cost of major rehabilitation based on the predicted PCI of the pavement section. The Iowa DOT provided the costs for major rehabilitation, and they are presented in Appendix E. If major rehabilitation is recommended in the 5-year program, further engineering investigation will be needed to identify the most appropriate rehabilitation action and to estimate the cost of such work more accurately.

Budget and Inflation Rate

An unlimited budget with a start date of July 1, 2025, and an inflation rate of 2.3 percent was used during the analysis.

Analysis Approach

The 5-year M&R program was prepared with the goal of maintaining the pavements above established critical PCIs. During this analysis, major rehabilitation was recommended for pavements in the year they dropped below their critical PCI. For the first year (2025) of the analysis only, a localized preventive maintenance plan was developed for those pavement sections that were above their critical PCI. If major rehabilitation was triggered for a section in 2026 or 2027, then localized preventive maintenance was not recommended for 2025. While localized preventive maintenance should be an annual undertaking at Greenfield Municipal Airport, it is not possible to accurately predict the propagation of cracking and other distress types. Therefore, the airport should budget for maintenance every year and can use the 2025 localized preventive maintenance plan as a baseline for that work. As the pavements age, it can be assumed that the amount of localized preventive maintenance required will increase.

Analysis Results

A summary of the M&R program for Greenfield Municipal Airport is presented in Table 2. Detailed information on the recommended localized preventive maintenance plan for 2025 is provided in Appendix F.

Table 2. 5-year M&R program under an unlimited funding analysis scenario.

Year	Branch	Section	Surface Type	Type of Repair	Estimated Cost
2025	A01GR	01	PCC	Preventive Maintenance	\$35,875
2025	A02GR	01	PCC	Preventive Maintenance	\$16,668
2025	R07GR	01	PCC	Preventive Maintenance	\$79,386
2025	R07GR	02	PCC	Preventive Maintenance	\$5,881
2025	R14GR	01	PCC	Preventive Maintenance	\$2,020
2025	R14GR	03	PCC	Preventive Maintenance	\$4,111
2025	R14GR	04	PCC	Preventive Maintenance	\$1,001
2025	T01GR	01	PCC	Major Rehabilitation	\$82,214
2025	T02GR	01	PCC	Preventive Maintenance	\$29,956
2025	T03GR	01	PCC	Preventive Maintenance	\$7,535
2025	TH01GR	01	AC	Major Rehabilitation	\$46,649
2025	TH01GR	02	PCC	Major Rehabilitation	\$56,373
2025	TH02GR	01	PCC	Preventive Maintenance	\$5,579
2025	TH02GR	02	AC	Major Rehabilitation	\$54,359
2025	TH02GR	03	PCC	Major Rehabilitation	\$40,870
2026	R14GR	02	PCC	Major Rehabilitation	\$57,844
2028	A01GR	01	PCC	Major Rehabilitation	\$207,468
2029	TH02GR	01	PCC	Major Rehabilitation	\$37,524

Total Estimated Cost: \$771,000

Table Notes:

1. See Figure 3 for the location of the branch and section.
2. Surface Type: AC = asphalt cement concrete; AAC = asphalt overlay on AC; PCC = portland cement concrete; APC = asphalt overlay on PCC.
3. Type of Repair: Major Rehabilitation, such as pavement reconstruction or an overlay; Localized Preventive Maintenance, such as crack sealing or patching.
4. The estimated costs provided are of a general nature for the entire State and may require adjustments to reflect specific conditions at Greenfield Municipal Airport.

The recommendations made in this report are based on a broad network-level analysis and meant to provide Greenfield Municipal Airport with an indication of the type of pavement-related work required during the next 5 years. Further engineering investigation may be necessary to identify which repair action is most appropriate. In addition, the cost estimates provided are based on overall unit costs for the entire State, and Greenfield Municipal Airport should adjust the plan to reflect local costs.

Because an unlimited budget was used in the analysis, it is possible that the pavement repair program may need to be adjusted to consider economic or operational constraints. The identification of a project need does not necessarily mean that State or Federal funding will be available in the year it is indicated. It is important to remember that regardless of the

recommendations presented within this report, Greenfield Municipal Airport is responsible for repairing pavements where existing conditions pose a hazard to safe operations.

General Maintenance Recommendations

In addition to the specific maintenance actions presented in Appendix F, it is recommended that the following strategies be considered for prolonging pavement life:

1. Regularly inspect all safety areas of the airport and document all inspection activity. A sample form that can be used to perform these inspections is provided in Table 3 of this report.
2. Provide a method of tracking all maintenance activities that occur because of these inspections. This documentation needs to be reported to the FAA and the Iowa DOT. This information is used to update the APMS records and is required to remain in compliance with Public Law 103-305 (see the next section of this report for further information on this law).
3. Conduct an aggressive campaign against weed growth through timely herbicide applications and mowing programs of the safety areas. Vegetation growth in pavement cracks is destructive and significantly increases the rate of pavement deterioration.
4. Implement a periodic crack and joint sealing program. Keeping water and debris out of the pavement system by sealing cracks and joints is a proven and cost-effective method for extending the life of the pavement system.
5. Ensure all edges of pavement maintain the required 1.5-inch lip. This enables the water to drain away from the pavement system.
6. Closely monitor the movement of heavy equipment (particularly farming, construction, mowing, and fueling equipment) to make sure it is only operating on pavements that are designed to accommodate heavy loads. Failure to restrict heavy equipment to appropriate areas may result in the premature failure of airport pavements.

FAA Requirements (Public Law 103-305)

Because Greenfield Municipal Airport is in the National Plan of Integrated Airport Systems (NPIAS), the airport sponsor is required to keep the airport in a viable operating condition. This includes maintaining airport pavements in accordance with Public Law 103-305. Public Law 103-305 states that after January 1, 1995, NPIAS airport sponsors must provide assurances or certifications that an airport has implemented an effective airport pavement maintenance management system (PMMS) before the airport will be considered for Federal funding of pavement replacement or reconstruction projects. To be in full compliance with the Federal law, the PMMS must include the following components at minimum: pavement inventory, pavement inspections, record keeping, information retrieval, and program funding.

This report serves as a complete pavement inventory and detailed inspection. To remain in compliance with the law, Greenfield Municipal Airport will also need to undertake monthly drive-by inspections of pavement conditions and track pavement-related maintenance activities.

FAA Advisory Circular 150/5380-7B provides detailed guidance pertaining to the requirements for an acceptable pavement management program. Appendix A of the FAA Advisory Circular 150/5380-7B outlines what needs to be included in a PMP to remain in compliance with this law and Grant Assurance #11. The following is a copy of this appendix, along with instructions for supplementing this report so that all requirements are met. Note that the italicized text is a direct quotation from the FAA Advisory Circular.

FAA Advisory Circular 150/5830-7B, Appendix A. Pavement Management Program

A-1.0. *An effective PMP specifies the procedures to follow to assure that proper preventative and remedial pavement maintenance is performed. The program should identify funding or anticipated funding and other resources available to provide remedial and preventive maintenance activities. An airport sponsor may use any format deemed appropriate, but the program needs to, as a minimum, include the following:*

A-1.1. Pavement Inventory. *The following must be depicted:*

- a. *Identification of all runways, taxiways, and aprons with pavement broken down into sections each having similar properties.*

The network definition map provided in Figure 3 of this report shows the location of all runways, taxiways, aprons, and T-hangars at Greenfield Municipal Airport. If any new pavements are constructed or any pavement areas are permanently closed, this map must be updated. Project plans should be submitted to the Iowa DOT after project completion.

- b. *Dimensions of pavement sections.*

The dimensions of all runways, taxiways, aprons, and T-hangars are stored in the PAVER database. Appendix C provides information on length, width, and area. In addition, the network definition map provided in Figure 3 is drawn to scale. Any changes to pavement dimensions must be recorded.

- c. *Type of pavement surface.*

The type of pavement for each section at Greenfield Municipal Airport is listed in Table 1 of this report and is also stored in the PAVER database. Any changes to the pavement type (through an overlay or reconstruction) must be recorded.

- d. *Year of construction and/or most recent major rehabilitation.*

Dates for pavement construction, rehabilitation, or reconstruction must be recorded. The current pavement history for Greenfield Municipal Airport is provided in Appendix D of this report.

- e. *Whether AIP [Airport Improvement Program] or PFC [Passenger Facility Charge] funds were used to construct, reconstruct, or repair the pavement.*

Funding sources for all pavement projects should be recorded.

A-1.2. PMP Pavement Inspection Schedule. *Airports must perform a detailed inspection of airfield pavements at least once a year for the PMP. If a pavement condition index (PCI) survey is performed, as set forth in ASTM D5340, "Standard Test Method for Airport Pavement Condition Index Surveys," the frequency of the detailed inspection by PCI surveys may be extended to three years. Less comprehensive routine daily, weekly, and monthly maintenance inspections required for operations should be addressed.*

This report consists of a detailed inspection that will extend the inspection period to 3 years. It is the airport sponsor's responsibility to perform monthly drive-by inspections. A sample pavement inspection report form is provided in Table 3 of this report.

A-1.3. Record Keeping. *The airport must record and keep on file complete information about all detailed inspections and maintenance performed until the pavement system is replaced. The*

types of distress, their locations, and remedial action, scheduled or performed, must be documented. The minimum information recorded includes:

- a. Inspection date*
- b. Location*
- c. Distress types*
- d. Maintenance scheduled or performed*

Items A through C are satisfied by this inspection report. Item D is the responsibility of the airport, as is record keeping of the monthly drive-by inspections.

A-1.4. Information Retrieval. *An airport sponsor may use any form of record keeping it deems appropriate so long as the information and records from the pavement survey can generate required reports, as necessary.*

Keep this report, monthly drive-by inspection reports, construction updates, and all records of maintenance activities in a readily accessible location so that they can be easily retrieved as requested by the FAA.

Table 3. Pavement inspection report.

Inspected By: _____

Date Inspected: _____

Branch	Section	Distress Description/Dimensions/Severity/ Recommended Action	Description of Repair	Date Performed	Cost	Funding Source
A01GR	01					
A02GR	01					
R07GR	01					
R07GR	02					
R14GR	01					
R14GR	02					

Table 3. Pavement inspection report (continued).

Inspected By: _____

Date Inspected: _____

Branch	Section	Distress Description/Dimensions/Severity/ Recommended Action	Description of Repair	Date Performed	Cost	Funding Source
R14GR	03					
R14GR	04					
T01GR	01					
T01GR	02					
T02GR	01					
T03GR	01					

Table 3. Pavement inspection report (continued).

Inspected By: _____

Date Inspected: _____

Branch	Section	Distress Description/Dimensions/Severity/ Recommended Action	Description of Repair	Date Performed	Cost	Funding Source
TH01GR	01					
TH01GR	02					
TH02GR	01					
TH02GR	02					
TH02GR	03					

Table Note: See Figure 3 for the location of the branch and section.

SUMMARY

This report documents the results of the pavement evaluation conducted at Greenfield Municipal Airport. A visual inspection of the pavements in 2025 found that the overall condition of the pavement network is a PCI of 81. A 5-year pavement repair program, shown in Table 2, was generated for Greenfield Municipal Airport, which revealed that approximately \$771,000 needs to be expended on M&R. Greenfield Municipal Airport should utilize these study results to assist in planning for future maintenance needs as part of the airport CIP planning process.

REFERENCES

ASTM International (ASTM). *Standard Test Method for Airport Pavement Condition Index Surveys*. D5340. ASTM International, West Conshohocken, PA.

Federal Aviation Administration Authorization Act of 1994. Public Law No. 103-305. Vol 108 Stat. 1569. 1994.

Federal Aviation Administration (FAA). [*Guidelines and Procedures for Maintenance of Airport Pavements*](#). Advisory Circular 150/5380-6C. Federal Aviation Administration, Washington, DC.

Federal Aviation Administration (FAA). [*Airport Pavement Management Program \(PMP\)*](#). Advisory Circular 150/5380-7B. Federal Aviation Administration, Washington, DC.

US Army Corps of Engineers (USACE). 2009. [*Asphalt Surfaced Airfields*](#). *PAVER Distress Identification Manual*. USACE, Washington, DC.

US Army Corps of Engineers (USACE). 2009. [*Concrete Surfaced Airfields*](#). *PAVER Distress Identification Manual*. USACE, Washington, DC.

US Army Corps of Engineers (USACE). 2021. *PAVER*. (Software). US Army Corps of Engineers, Transportation Systems Center, Omaha, NE.

APPENDIX A

CAUSE OF DISTRESS TABLES

Table A-1. Cause of pavement distress, asphalt-surfaced pavements (USACE 2009a).

Distress Type	Probable Cause of Distress
Alligator Cracking	Fatigue failure of the asphalt surface under repeated traffic loading.
Bleeding	Excessive amounts of asphalt cement or tars in the mix or low air void content, or both.
Block Cracking	Shrinkage of the asphalt and daily temperature cycling; it is not load associated.
Corrugation	Traffic action combined with an unstable pavement layer.
Depression	Settlement of the foundation soil or can be “built up” during construction.
Jet-Blast Erosion	Bituminous binder has been burned or carbonized.
Joint Reflection Cracking	Movement of the concrete slab beneath the asphalt surface due to thermal and moisture changes.
L&T Cracking	Cracks may be caused by (1) a poorly constructed paving lane joint, (2) shrinkage of the asphalt surface due to low temperatures or hardening of the asphalt, or (3) reflective cracking caused by cracks in an underlying PCC slab.
Oil Spillage	Deterioration or softening of the pavement surface caused by the spilling of oil, fuel, or other solvents.
Patching	N/A
Polished Aggregate	Repeated traffic applications.
Raveling	Asphalt binder may have hardened significantly, causing coarse aggregate pieces to dislodge.
Rutting	Usually caused by consolidation or lateral movement of the materials due to traffic loads.
Shoving	Where PCC pavements adjoin flexible pavements, PCC “growth” may shove the asphalt pavement.
Slippage Cracking	Low-strength surface mix or poor bond between the surface and the next layer of the pavement structure.
Swelling	Usually caused by frost action or by swelling soil.
Weathering	Asphalt binder and/or fine aggregate may wear away as the pavement ages and hardens.

Table A-2. Cause of pavement distress, PCC pavements (USACE 2009b).

Distress Type	Probable Cause of Distress
ASR	Chemical reaction of alkalis in the cement with certain reactive silica minerals. ASR may be accelerated by the use of chemical pavement deicers.
Blowup	Incompressible materials in the joints.
Corner Break	Load repetition combined with loss of support and curling stresses.
Durability Cracking	Concrete's inability to withstand environmental factors, such as freeze-thaw cycles.
Faulting	Upheaval or consolidation.
Joint Seal Damage	Stripping of joint sealant, extrusion of joint sealant, weed growth, hardening of the filler (oxidation), loss of bond to the slab edges, or absence of sealant in the joint.
LTD Cracking	Combination of load repetition, curling stresses, and shrinkage stresses.
Patching (Small and Large)	N/A
Popouts	Freeze-thaw action in combination with expansive aggregates.
Pumping	Poor drainage, poor joint sealant.
Scaling	Over finishing of concrete, deicing salts, improper construction, freeze-thaw cycles, and poor aggregate.
Shattered Slab	Load repetition.
Shrinkage Cracking	Setting and curing of the concrete.
Spalling (Joint and Corner)	Excessive stresses at the joint caused by infiltration of incompressible materials or traffic loads; weak concrete at the joint combined with traffic loads.

APPENDIX B

INSPECTION PHOTOGRAPHS

A01GR-01. Overview.



A01GR-01. ASR (Sample Unit No. 09).



A01GR-01. Large Patching (Sample Unit No. 09).



A02GR-01. Overview.



A02GR-01. Joint Seal Damage (Sample Unit No. 03).



A02GR-01. Joint Spalling (Sample Unit No. 03).



R07GR-01. Overview.



R07GR-01. ASR (Sample Unit No. 76).



R07GR-01. Joint Seal Damage (Sample Unit No. 85).



R07GR-02. Overview.



R07GR-02. LTD Cracking (Sample Unit No. 01).



R14GR-01. Overview.



R14GR-01. ASR (Sample Unit No. 11).



R14GR-01. LTD Cracking (Sample Unit No. 32).



R14GR-02. Overview.



R14GR-02. LTD Cracking (Sample Unit No. 01).



R14GR-02. Small Patching (Sample Unit No. 02).



R14GR-03. Overview.



R14GR-03. Corner Break (Sample Unit No. 01).



R14GR-03. Corner Spalling (Sample Unit No. 01).



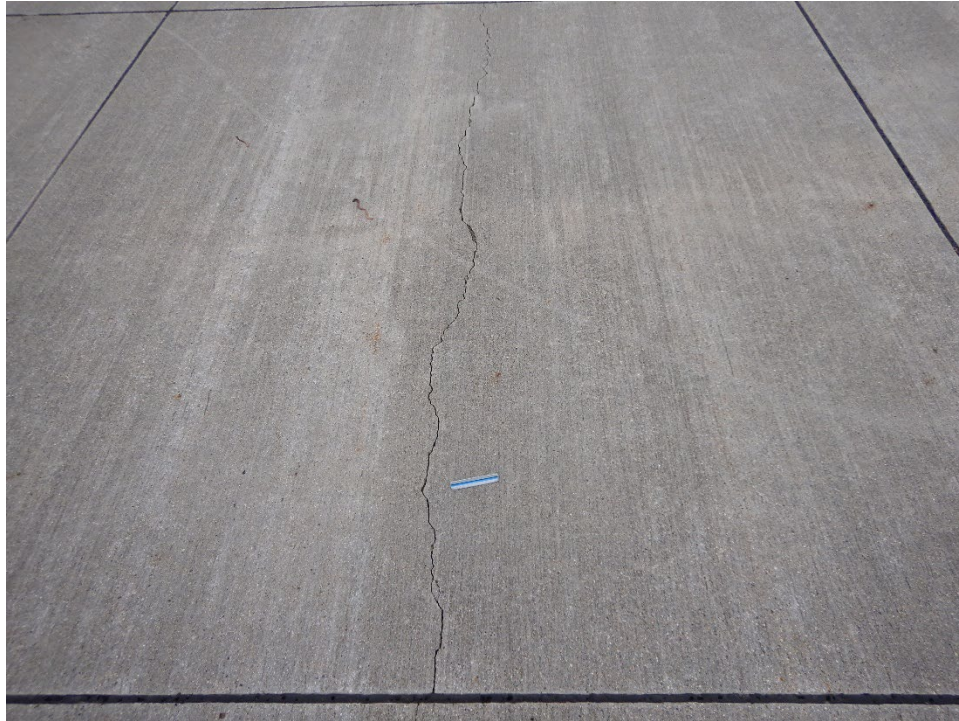
R14GR-04. Overview.



R14GR-04 ASR. (Sample Unit No. 16).



R14GR-04. LTD Cracking (Sample Unit No. 02).



T01GR-01. Overview.



T01GR-01. Corner Break (Sample Unit No. 02).



T01GR-01. LTD Cracking (Sample Unit No. 02).



T01GR-02. Overview.



T01GR-02. Joint Seal Damage (Sample Unit No. 01).



T02GR-01. Overview.



T02GR-01. ASR (Sample Unit No. 15).



T02GR-01. Corner Spalling (Sample Unit No. 02).



T03GR-01. Overview.



T03GR-01. ASR (Sample Unit No. 02).



T03GR-01. Corner Break (Sample Unit No. 05).



TH01GR-01. Overview.



TH01GR-01. Alligator Cracking (Sample Unit No. 01).



TH01GR-01. L&T Cracking (Sample Unit No. 01).



TH01GR-02. Overview.



TH01GR-02. Joint Seal Damage (Sample Unit No. 01).



TH01GR-02. Shattered Slab (Sample Unit No. 01).



TH02GR-01. Overview.



TH02GR-01. ASR (Sample Unit No. 02).



TH02GR-01. LTD Cracking (Sample Unit No. 02).



TH02GR-02. Overview.



TH02GR-02. Alligator Cracking (Sample Unit No. 01) (1).



TH02GR-02. Alligator Cracking (Sample Unit No. 01) (2).



TH02GR-03. Overview.



TH02GR-03. Corner Break (Sample Unit No. 01).



TH02GR-03. Shattered Slab (Sample Unit No. 01).



APPENDIX C

INSPECTION REPORT

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 1

Branch - Section ID: A01GR - 001

Branch Name: APRON Use: APRON

LCD: 6/2/2003 PCI Family: IowaPCCAP_SC_Basic
Surface Type: PCC
Rank: P
Section Area (sf): 21,725.00
Length (ft): 176.00
Width (ft): 159.00
From: BUILDINGS
To: T01GR-01
Slabs: 186 Section Comments: avg slabs
Slab Length (ft): 11.70
Slab Width (ft): 10.00
Joint Length (ft): 3,769.26
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 60
Total Samples: 9
Surveyed: 5

Sample Number: 02

Sample Type: R Sample Comments:
Sample PCI: 53
Sample Area (Slabs): 20.00
65 JT SEAL DMG H 20.00 Slabs
76 ASR L 17.00 Slabs
76 ASR M 3.00 Slabs

Sample Number: 04

Sample Type: R Sample Comments:
Sample PCI: 64
Sample Area (Slabs): 20.00
63 LINEAR CR L 1.00 Slabs
63 LINEAR CR M 1.00 Slabs
65 JT SEAL DMG M 20.00 Slabs
76 ASR L 18.00 Slabs

Sample Number: 05

Sample Type: R Sample Comments:
Sample PCI: 69
Sample Area (Slabs): 20.00
65 JT SEAL DMG M 20.00 Slabs
75 CORNER SPALL M 1.00 Slabs
76 ASR L 20.00 Slabs

Sample Number: 06

Sample Type: R Sample Comments:
Sample PCI: 62
Sample Area (Slabs): 20.00
65 JT SEAL DMG M 20.00 Slabs
67 LARGE PATCH L 3.00 Slabs
76 ASR L 19.00 Slabs
76 ASR M 1.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 2

Sample Number: 09

Sample Type: R
Sample PCI: 52
Sample Area (Slabs): 22.00

Sample Comments:

65 JT SEAL DMG	M	22.00 Slabs
67 LARGE PATCH	L	2.00 Slabs
75 CORNER SPALL	L	2.00 Slabs
76 ASR	L	18.00 Slabs
76 ASR	M	2.00 Slabs

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 3

Branch - Section ID: A02GR - 001

Branch Name: APRON 02 Use: APRON

LCD: 6/2/2006 PCI Family: IowaPCCAP_SC_Basic
Surface Type: PCC
Rank: P
Section Area (sf): 30,000.00
Length (ft): 200.00
Width (ft): 150.00
From: T03GR-01
To: SEE MAP
Slabs: 247 Section Comments:
Slab Length (ft): 12.00
Slab Width (ft): 10.00
Joint Length (ft): 5,081.33
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 89
Total Samples: 13
Surveyed: 6

Sample Number: 01

Sample Type: R Sample Comments:
Sample PCI: 88
Sample Area (Slabs): 20.00
62 CORNER BREAK L 1.00 Slabs
65 JT SEAL DMG M 20.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs

Sample Number: 03

Sample Type: R Sample Comments:
Sample PCI: 88
Sample Area (Slabs): 20.00
65 JT SEAL DMG M 20.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs
74 JOINT SPALL L 1.00 Slabs
75 CORNER SPALL L 1.00 Slabs

Sample Number: 06

Sample Type: R Sample Comments:
Sample PCI: 89
Sample Area (Slabs): 28.00
63 LINEAR CR L 1.00 Slabs
65 JT SEAL DMG M 28.00 Slabs

Sample Number: 08

Sample Type: R Sample Comments:
Sample PCI: 93
Sample Area (Slabs): 20.00
65 JT SEAL DMG M 20.00 Slabs

Sample Number: 10

Sample Type: R Sample Comments:
Sample PCI: 83
Sample Area (Slabs): 20.00
63 LINEAR CR L 1.00 Slabs
65 JT SEAL DMG H 20.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 4

Sample Number: 12

Sample Type: R
Sample PCI: 92
Sample Area (Slabs): 20.00

Sample Comments:

65 JT SEAL DMG	M	20.00 Slabs
73 SHRINKAGE CR	N	1.00 Slabs

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 5

Branch - Section ID: R07GR - 001

Branch Name: RUNWAY 07/25 Use: RUNWAY

LCD: 6/1/1994 PCI Family: IowaPCCRW_SC_Basic
Surface Type: PCC
Rank: P
Section Area (sf): 218,192.00
Length (ft): 3,400.00
Width (ft): 60.00
From: SE RWY OF 07-01
To: NW RWY OF 07-01
Slabs: 2,182 Section Comments:
Slab Length (ft): 10.00
Slab Width (ft): 10.00
Joint Length (ft): 39,937.69
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 81
Total Samples: 91
Surveyed: 10

Sample Number: 04

Sample Type: R Sample Comments:
Sample PCI: 94
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs
74 JOINT SPALL M 1.00 Slabs

Sample Number: 13

Sample Type: R Sample Comments:
Sample PCI: 77
Sample Area (Slabs): 24.00
65 JT SEAL DMG M 24.00 Slabs
75 CORNER SPALL M 2.00 Slabs
76 ASR L 6.00 Slabs

Sample Number: 22

Sample Type: R Sample Comments:
Sample PCI: 73
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs
66 SMALL PATCH L 2.00 Slabs
75 CORNER SPALL M 1.00 Slabs
76 ASR L 7.00 Slabs
76 ASR M 1.00 Slabs

Sample Number: 31

Sample Type: R Sample Comments:
Sample PCI: 79
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs
75 CORNER SPALL L 3.00 Slabs
75 CORNER SPALL M 1.00 Slabs
76 ASR L 4.00 Slabs

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 6

Sample Number: 40

Sample Type: R	Sample Comments:	
Sample PCI: 81		
Sample Area (Slabs): 24.00		
65 JT SEAL DMG	L	24.00 Slabs
66 SMALL PATCH	L	2.00 Slabs
75 CORNER SPALL	M	2.00 Slabs
76 ASR	L	4.00 Slabs

Sample Number: 49

Sample Type: R	Sample Comments:	
Sample PCI: 72		
Sample Area (Slabs): 24.00		
65 JT SEAL DMG	M	24.00 Slabs
66 SMALL PATCH	L	6.00 Slabs
75 CORNER SPALL	M	2.00 Slabs
76 ASR	L	8.00 Slabs

Sample Number: 58

Sample Type: R	Sample Comments:	
Sample PCI: 87		
Sample Area (Slabs): 24.00		
65 JT SEAL DMG	L	24.00 Slabs
75 CORNER SPALL	L	1.00 Slabs
76 ASR	L	3.00 Slabs

Sample Number: 67

Sample Type: R	Sample Comments:	
Sample PCI: 75		
Sample Area (Slabs): 24.00		
63 LINEAR CR	L	1.00 Slabs
65 JT SEAL DMG	L	24.00 Slabs
66 SMALL PATCH	L	2.00 Slabs
71 FAULTING	L	2.00 Slabs
76 ASR	L	5.00 Slabs

Sample Number: 76

Sample Type: R	Sample Comments:	
Sample PCI: 81		
Sample Area (Slabs): 24.00		
62 CORNER BREAK	L	1.00 Slabs
65 JT SEAL DMG	M	24.00 Slabs
76 ASR	L	4.00 Slabs

Sample Number: 85

Sample Type: R	Sample Comments:	
Sample PCI: 88		
Sample Area (Slabs): 24.00		
65 JT SEAL DMG	M	24.00 Slabs
76 ASR	L	2.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 7

Branch - Section ID: R07GR - 002

Branch Name: RUNWAY 07/25 Use: RUNWAY

LCD: 6/3/2013

Surface Type: PCC

Rank: P

Section Area (sf): 10,294.00

Length (ft): 160.00

Width (ft): 65.00

From: SEE MAP

To: SEE MAP

Slabs: 95

Slab Length (ft): 10.83

Slab Width (ft): 10.00

Joint Length (ft): 1,757.20

Last Insp Date: 3/30/2025

PCI: 82

Total Samples: 4

Surveyed: 3

PCI Family: IowaPCCRW_SC_Basic

Section Comments:

Inspection Comments:

Sample Number: 01

Sample Type: R

Sample PCI: 80

Sample Area (Slabs): 24.00

Sample Comments:

63 LINEAR CR	L	3.00 Slabs
63 LINEAR CR	M	1.00 Slabs
65 JT SEAL DMG	M	24.00 Slabs

Sample Number: 02

Sample Type: R

Sample PCI: 74

Sample Area (Slabs): 24.00

Sample Comments:

63 LINEAR CR	L	2.00 Slabs
63 LINEAR CR	M	2.00 Slabs
65 JT SEAL DMG	M	24.00 Slabs

Sample Number: 03

Sample Type: R

Sample PCI: 93

Sample Area (Slabs): 24.00

Sample Comments:

65 JT SEAL DMG	M	24.00 Slabs
----------------	---	-------------

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 8

Branch - Section ID: R14GR - 001

Branch Name: RUNWAY 14/32 Use: RUNWAY

LCD: 9/1/2001 PCI Family: IowaPCCRW_SC_Basic
Surface Type: PCC
Rank: S
Section Area (sf): 67,174.00
Length (ft): 1,280.00
Width (ft): 50.00
From: RUNWAY END 14
To: R14GR-02
Slabs: 809 Section Comments: 4 slabs are 10' wide and 2 slabs are 5' wide
Slab Length (ft): 10.00
Slab Width (ft): 8.30
Joint Length (ft): 13,414.69
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 90
Total Samples: 35
Surveyed: 8

Sample Number: 01

Sample Type: R Sample Comments:
Sample PCI: 81
Sample Area (Slabs): 16.00
62 CORNER BREAK L 1.00 Slabs
65 JT SEAL DMG L 16.00 Slabs
74 JOINT SPALL M 1.00 Slabs
75 CORNER SPALL L 1.00 Slabs
75 CORNER SPALL M 1.00 Slabs

Sample Number: 07

Sample Type: R Sample Comments:
Sample PCI: 92
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs
75 CORNER SPALL L 1.00 Slabs
76 ASR L 1.00 Slabs

Sample Number: 11

Sample Type: R Sample Comments:
Sample PCI: 78
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs
75 CORNER SPALL L 1.00 Slabs
76 ASR L 13.00 Slabs

Sample Number: 16

Sample Type: R Sample Comments:
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs

Sample Number: 21

Sample Type: R Sample Comments:
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 9

Sample Number: 26

Sample Type: R
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG

Sample Comments:

L 24.00 Slabs

Sample Number: 29

Sample Type: R
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG

Sample Comments:

L 24.00 Slabs

Sample Number: 32

Sample Type: R
Sample PCI: 77
Sample Area (Slabs): 24.00
63 LINEAR CR
63 LINEAR CR
65 JT SEAL DMG

Sample Comments:

L 2.00 Slabs
M 2.00 Slabs
L 24.00 Slabs

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 10

Branch - Section ID: R14GR - 002

Branch Name: RUNWAY 14/32 Use: RUNWAY

LCD: 6/1/1994 PCI Family: IowaPCCRW_SC_Basic
Surface Type: PCC
Rank: S
Section Area (sf): 6,339.00
Length (ft): 93.00
Width (ft): 50.00
From: END OF R14GR-01
To: RWAY 07-25
Slabs: 69 Section Comments: 4 slabs are 10' wide and 2 slabs are 5' wide
Slab Length (ft): 10.50
Slab Width (ft): 10.00
Joint Length (ft): 1,042.67
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 66
Total Samples: 3
Surveyed: 3

Sample Number: 01

Sample Type: R Sample Comments:
Sample PCI: 67
Sample Area (Slabs): 24.00
62 CORNER BREAK L 2.00 Slabs
63 LINEAR CR L 4.00 Slabs
65 JT SEAL DMG M 24.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs
74 JOINT SPALL L 1.00 Slabs
75 CORNER SPALL L 2.00 Slabs
76 ASR L 5.00 Slabs

Sample Number: 02

Sample Type: R Sample Comments:
Sample PCI: 68
Sample Area (Slabs): 18.00
63 LINEAR CR L 1.00 Slabs
63 LINEAR CR M 1.00 Slabs
65 JT SEAL DMG M 18.00 Slabs
66 SMALL PATCH L 3.00 Slabs
75 CORNER SPALL H 1.00 Slabs
75 CORNER SPALL L 1.00 Slabs

Sample Number: 03

Sample Type: R Sample Comments:
Sample PCI: 63
Sample Area (Slabs): 27.00
62 CORNER BREAK L 3.00 Slabs
62 CORNER BREAK M 1.00 Slabs
63 LINEAR CR L 1.00 Slabs
63 LINEAR CR M 1.00 Slabs
65 JT SEAL DMG M 27.00 Slabs
66 SMALL PATCH L 2.00 Slabs
74 JOINT SPALL L 1.00 Slabs
75 CORNER SPALL M 1.00 Slabs
76 ASR L 1.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 11

Branch - Section ID: R14GR - 003

Branch Name: RUNWAY 14/32 Use: RUNWAY

LCD: 6/1/1994 PCI Family: IowaPCCRW_SC_Basic

Surface Type: PCC

Rank: S

Section Area (sf): 6,431.00

Length (ft): 95.00

Width (ft): 50.00

From: RWY 07/25

To: R14GR-04

Slabs: 74 Section Comments: avg slab sizes

Slab Length (ft): 9.00

Slab Width (ft): 8.80

Joint Length (ft): 1,249.04

Last Insp Date: 3/30/2025 Inspection Comments:

PCI: 85

Total Samples: 3

Surveyed: 3

Sample Number: 01

Sample Type: R Sample Comments:

Sample PCI: 85

Sample Area (Slabs): 24.00

62 CORNER BREAK L 1.00 Slabs

65 JT SEAL DMG M 24.00 Slabs

73 SHRINKAGE CR N 1.00 Slabs

75 CORNER SPALL L 2.00 Slabs

Sample Number: 02

Sample Type: R Sample Comments:

Sample PCI: 86

Sample Area (Slabs): 28.00

65 JT SEAL DMG M 28.00 Slabs

67 LARGE PATCH L 2.00 Slabs

74 JOINT SPALL L 1.00 Slabs

75 CORNER SPALL L 1.00 Slabs

Sample Number: 03

Sample Type: R Sample Comments:

Sample PCI: 84

Sample Area (Slabs): 22.00

63 LINEAR CR L 3.00 Slabs

65 JT SEAL DMG M 22.00 Slabs

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 12

Branch - Section ID: R14GR - 004

Branch Name: RUNWAY 14/32 Use: RUNWAY

LCD: 9/1/2001 PCI Family: IowaPCCRW_SC_Basic
Surface Type: PCC
Rank: S
Section Area (sf): 53,372.00
Length (ft): 1,050.00
Width (ft): 50.00
From: R14GR-03
To: END OF RWY 32
Slabs: 643 Section Comments: avg slab sizes
Slab Length (ft): 10.00
Slab Width (ft): 8.30
Joint Length (ft): 10,649.29
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 95
Total Samples: 27
Surveyed: 7

Sample Number: 02

Sample Type: R Sample Comments:
Sample PCI: 93
Sample Area (Slabs): 24.00
63 LINEAR CR L 1.00 Slabs
65 JT SEAL DMG L 24.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs

Sample Number: 06

Sample Type: R Sample Comments:
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs

Sample Number: 09

Sample Type: R Sample Comments:
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs

Sample Number: 13

Sample Type: R Sample Comments:
Sample PCI: 98
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs

Sample Number: 16

Sample Type: R Sample Comments:
Sample PCI: 94
Sample Area (Slabs): 24.00
65 JT SEAL DMG L 24.00 Slabs
76 ASR L 1.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 13

Sample Number: 19

Sample Type: R	Sample Comments:	
Sample PCI: 93		
Sample Area (Slabs): 24.00		
65 JT SEAL DMG	L	24.00 Slabs
74 JOINT SPALL	M	1.00 Slabs
75 CORNER SPALL	L	1.00 Slabs

Sample Number: 25

Sample Type: R	Sample Comments:	
Sample PCI: 92		
Sample Area (Slabs): 25.00		
65 JT SEAL DMG	L	25.00 Slabs
75 CORNER SPALL	L	1.00 Slabs
76 ASR	L	1.00 Slabs

RE-INSPECTION REPORT GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024

Generate Date: 8/11/2025

Network ID: GFZ

Page 15

Branch - Section ID: T01GR - 002

Branch Name: TAXIWAY 01

Use: TAXIWAY

LCD: 9/5/1998

PCI Family: IowaPCCTW_SC_Basic

Surface Type: PCC

Rank: P

Section Area (sf): 1,916.00

Length (ft): 169.00

Width (ft): 11.00

From: APRON

To: RUNWAY 32

Slabs: 14

Section Comments: avg slab sizes

Slab Length (ft): 12.00

Slab Width (ft): 13.00

Joint Length (ft): 121.53

Last Insp Date: 3/30/2025

Inspection Comments:

PCI: 98

Total Samples: 1

Surveyed: 1

Sample Number: 01

Sample Type: R

Sample Comments:

Sample PCI: 98

Sample Area (Slabs): 14.00

65 JT SEAL DMG

L

14.00 Slabs

RE-INSPECTION REPORT

GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 16

Branch - Section ID: T02GR - 001

Branch Name: TAXIWAY 02 Use: TAXIWAY

LCD: 6/2/2006 PCI Family: IowaPCCTW_SC_Basic
Surface Type: PCC
Rank: P
Section Area (sf): 42,229.00
Length (ft): 1,105.00
Width (ft): 35.00
From: A01GR-01
To: T03GR-01
Slabs: 439 Section Comments:
Slab Length (ft): 11.00
Slab Width (ft): 8.75
Joint Length (ft): 7,420.41
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 84
Total Samples: 22
Surveyed: 7

Sample Number: 02

Sample Type: R Sample Comments:
Sample PCI: 89
Sample Area (Slabs): 20.00
65 JT SEAL DMG M 20.00 Slabs
75 CORNER SPALL M 1.00 Slabs

Sample Number: 04

Sample Type: R Sample Comments:
Sample PCI: 85
Sample Area (Slabs): 20.00
63 LINEAR CR L 2.00 Slabs
65 JT SEAL DMG M 20.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs

Sample Number: 07

Sample Type: R Sample Comments:
Sample PCI: 93
Sample Area (Slabs): 20.00
65 JT SEAL DMG M 20.00 Slabs

Sample Number: 12

Sample Type: R Sample Comments:
Sample PCI: 75
Sample Area (Slabs): 22.00
63 LINEAR CR L 1.00 Slabs
63 LINEAR CR M 1.00 Slabs
65 JT SEAL DMG M 22.00 Slabs
73 SHRINKAGE CR N 1.00 Slabs
76 ASR L 1.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 17

Sample Number: 15

Sample Type: R	Sample Comments:	
Sample PCI: 72		
Sample Area (Slabs): 20.00		
65 JT SEAL DMG	M	20.00 Slabs
76 ASR	L	7.00 Slabs
76 ASR	M	1.00 Slabs

Sample Number: 17

Sample Type: R	Sample Comments:	
Sample PCI: 88		
Sample Area (Slabs): 20.00		
65 JT SEAL DMG	M	20.00 Slabs
76 ASR	L	1.00 Slabs

Sample Number: 20

Sample Type: R	Sample Comments:	
Sample PCI: 88		
Sample Area (Slabs): 24.00		
65 JT SEAL DMG	M	24.00 Slabs
76 ASR	L	2.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Branch Name: T-HANGAR 01

Branch - Section ID: TH01GR - 001

Use: T-HANGAR

LCD: 1/1/1965

Surface Type: AC

Rank: P

Section Area (sf): 4,132.00

Length (ft): 275.00

Width (ft): 15.00

From: SEE MAP

To: SEE MAP

Slabs:

Slab Length (ft):

Slab Width (ft):

Joint Length (ft):

Last Insp Date: 3/30/2025

PCI: 14

Total Samples: 1

Surveyed: 1

PCI Family: IowaAsphaltTH_Southern

Section Comments:

Inspection Comments:

Sample Number: 01

Sample Type: R

Sample PCI: 14

Sample Area (SF): 4,132.00

Sample Comments:

41 ALLIGATOR CR

M

500.00 SF

45 DEPRESSION

H

30.00 SF

48 L & T CR

H

15.00 FT

3 in

48 L & T CR

M

60.00 FT

w

50 PATCHING

H

50.00 SF

50 PATCHING

M

100.00 SF

52 RAVELING

M

3,982.00 SF

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 20

Branch Name: T-HANGAR 01

Branch - Section ID: TH01GR - 002

Use: T-HANGAR

LCD: 1/1/1965
Surface Type: PCC
Rank: P
Section Area (sf): 2,989.00
Length (ft): 200.00
Width (ft): 15.00
From: SEE MAP
To: SEE MAP
Slabs: 11
Slab Length (ft): 18.00
Slab Width (ft): 15.00
Joint Length (ft): 151.11
Last Insp Date: 3/30/2025
PCI: 21
Total Samples: 1
Surveyed: 1

PCI Family: IowaPCCTH_SC

Section Comments: avg slab length

Inspection Comments:

Sample Number: 01

Sample Type: R
Sample PCI: 21
Sample Area (Slabs): 11.00

Sample Comments:

62 CORNER BREAK
63 LINEAR CR
63 LINEAR CR
65 JT SEAL DMG
72 SHAT. SLAB
72 SHAT. SLAB
76 ASR

L
L
M
H
L
M
L

2.00 Slabs
2.00 Slabs
2.00 Slabs
11.00 Slabs
3.00 Slabs
1.00 Slabs
3.00 Slabs

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 21

Branch - Section ID: TH02GR - 001

Branch Name: T-HANGAR 02 Use: T-HANGAR

LCD: 1/1/2003

Surface Type: PCC

Rank: P

Section Area (sf): 3,841.00

Length (ft): 192.00

Width (ft): 20.00

From: SEE MAP

To: SEE MAP

Slabs: 37

Slab Length (ft): 10.50

Slab Width (ft): 10.00

Joint Length (ft): 537.85

Last Insp Date: 3/30/2025

PCI: 61

Total Samples: 2

Surveyed: 2

PCI Family: IowaPCCTH_SC

Section Comments: avg slab length

Inspection Comments:

Sample Number: 01

Sample Type: R

Sample PCI: 68

Sample Area (Slabs): 17.00

Sample Comments:

63 LINEAR CR	L	1.00 Slabs
65 JT SEAL DMG	H	17.00 Slabs
76 ASR	L	14.00 Slabs

Sample Number: 02

Sample Type: R

Sample PCI: 54

Sample Area (Slabs): 20.00

Sample Comments:

63 LINEAR CR	L	1.00 Slabs
65 JT SEAL DMG	H	20.00 Slabs
76 ASR	L	18.00 Slabs
76 ASR	M	2.00 Slabs

RE-INSPECTION REPORT GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024

Generate Date: 8/11/2025

Network ID: GFZ

Page 22

Branch - Section ID: TH02GR - 002

Branch Name: T-HANGAR 02

Use: T-HANGAR

LCD: 1/1/1965

PCI Family: IowaAsphaltTH_Southern

Surface Type: AC

Rank: P

Section Area (sf): 4,815.00

Length (ft): 230.00

Width (ft): 20.00

From: SEE MAP

To: SEE MAP

Slabs:

Section Comments:

Slab Length (ft):

Slab Width (ft):

Joint Length (ft):

Last Insp Date: 3/30/2025

Inspection Comments:

PCI: 11

Total Samples: 1

Surveyed: 1

Sample Number: 01

Sample Type: R

Sample Comments:

Sample PCI: 11

Sample Area (SF): 4,815.00

41 ALLIGATOR CR

H

200.00 SF

no pavement

41 ALLIGATOR CR

M

1,300.00 SF

48 L & T CR

M

110.00 FT

W

53 RUTTING

L

60.00 SF

57 WEATHERING

M

4,615.00 SF

RE-INSPECTION REPORT
GREENFIELD MUNICIPAL AIRPORT

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 8/11/2025
Page 23

Branch - Section ID: TH02GR - 003

Branch Name: T-HANGAR 02 Use: T-HANGAR

LCD: 1/1/1965 PCI Family: IowaPCCTH_SC
Surface Type: PCC
Rank: P
Section Area (sf): 2,167.00
Length (ft): 180.00
Width (ft): 11.00
From: SEE MAP
To: SEE MAP
Slabs: 18 Section Comments:
Slab Length (ft): 11.00
Slab Width (ft): 11.00
Joint Length (ft): 188.97
Last Insp Date: 3/30/2025 Inspection Comments:
PCI: 12
Total Samples: 1
Surveyed: 1

Sample Number: 01

Sample Type: R Sample Comments:
Sample PCI: 12
Sample Area (Slabs): 18.00

62 CORNER BREAK	L	2.00 Slabs
63 LINEAR CR	L	2.00 Slabs
63 LINEAR CR	M	1.00 Slabs
65 JT SEAL DMG	H	18.00 Slabs
72 SHAT. SLAB	H	3.00 Slabs
72 SHAT. SLAB	L	1.00 Slabs
72 SHAT. SLAB	M	4.00 Slabs
74 JOINT SPALL	H	1.00 Slabs

APPENDIX D

WORK HISTORY REPORT

WORK HISTORY

Pavement Database: IA 2024

Generate Date: 6/30/2025

Network ID: GFZ

Page 1

Network: GREENFIELD MUNICIPAL AIRPORT

Branch - Section ID: A01GR - 001

LCD: 6/2/2003

Use: APRON

Rank: P

Surface: PCC

Length (ft): 176.00

Width (ft): 159.00

True Area (sf): 21,725.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
06-02-2003	CR-PC	Complete Reconstruction - PCC	\$0.00	5.00	True	-
06-01-2003	SB-AG	Subbase - Aggregate	\$0.00	4.00	False	-
06-01-1965	NC-AC	New Construction - AC	\$0.00	0.00	True	-

Branch - Section ID: A02GR - 001

LCD: 6/2/2006

Use: APRON

Rank: P

Surface: PCC

Length (ft): 200.00

Width (ft): 150.00

True Area (sf): 30,000.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
06-02-2006	NC-PC	New Construction - PCC	\$276,730.00	5.00	True	P-505
06-01-2006	SB-AG	Subbase - Aggregate	\$0.00	4.00	False	P-154

Branch - Section ID: R07GR - 001

LCD: 6/1/1994

Use: RUNWAY

Rank: P

Surface: PCC

Length (ft): 3,400.00

Width (ft): 60.00

True Area (sf): 218,192.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2010	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	AIP Project
04-01-2010	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	AIP Project
04-01-2010	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	AIP Project
06-01-1994	NC-PC	New Construction - PCC	\$0.00	0.00	True	-

Branch - Section ID: R07GR - 002

LCD: 6/3/2013

Use: RUNWAY

Rank: P

Surface: PCC

Length (ft): 160.00

Width (ft): 65.00

True Area (sf): 10,294.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
06-03-2013	NC-PC	New Construction - PCC	\$0.00	5.00	True	5" P505
06-02-2013	SB-AG	Subbase - Aggregate	\$0.00	4.00	False	4" P154
06-01-2013	SG-CO	Subgrade - Compacted	\$0.00	12.00	False	12" P152

WORK HISTORY

Pavement Database: IA 2024

Generate Date: 6/30/2025

Network ID: GFZ

Page 2

Branch - Section ID: R14GR - 001

LCD: 9/1/2001
Use: RUNWAY
Rank: S
Surface: PCC

Length (ft): 1,280.00
Width (ft): 50.00
True Area (sf): 67,174.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2020	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
01-01-2016	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	FIELD EST.
04-01-2010	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	AIP Project
04-01-2010	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	AIP Project; in turnaround area only
09-01-2001	CR-PC	Complete Reconstruction - PCC	\$0.00	0.00	True	UNKNOWN CS
06-01-1967	NC-AC	New Construction - AC	\$0.00	2.00	True	2" P401 AC (ASSUMED MAT. CODE)
06-04-1966	ST-SC	Surface Treatment - Seal Coat	\$0.00	0.00	False	P609 BIT. SURFACE TREATMENT
06-03-1966	BA-AG	Base Course - Aggregate	\$0.00	6.00	False	6" P208 ABC
06-02-1966	SB-AG	Subbase - Aggregate	\$0.00	3.00	False	3" P154 SUBBASE
06-01-1966	SG-CO	Subgrade - Compacted	\$0.00	6.00	False	6" P152 COMPACTED SUBGRADE

Branch - Section ID: R14GR - 002

LCD: 6/1/1994
Use: RUNWAY
Rank: S
Surface: PCC

Length (ft): 93.00
Width (ft): 50.00
True Area (sf): 6,339.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	-
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
04-04-2010	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	FIELD EST.
04-03-2010	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	AIP Project
04-02-2010	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	AIP Project
04-01-2010	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	AIP Project
06-01-1994	NC-PC	New Construction - PCC	\$0.00	0.00	True	UNKNOWN CS
06-01-1967	NC-AC	New Construction - AC	\$0.00	2.00	True	2" P401 AC
06-04-1966	ST-SC	Surface Treatment - Seal Coat	\$0.00	0.00	False	P609 BIT. SURFACE TREATMENT
06-03-1966	BA-AG	Base Course - Aggregate	\$0.00	6.00	False	6" P208 ABC
06-02-1966	SB-AG	Subbase - Aggregate	\$0.00	3.00	False	3" P154 SUBBASE
06-01-1966	SG-CO	Subgrade - Compacted	\$0.00	6.00	False	6" P152 COMPACTED SUBGRADE

WORK HISTORY

Pavement Database: IA 2024

Generate Date: 6/30/2025

Network ID: GFZ

Page 3

Branch - Section ID: R14GR - 003

LCD: 6/1/1994
Use: RUNWAY
Rank: S
Surface: PCC

Length (ft): 95.00
Width (ft): 50.00
True Area (sf): 6,431.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
04-01-2020	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	-
04-01-2010	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	AIP Project
04-01-2010	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	AIP Project
04-01-2010	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	AIP Project
06-01-1994	NC-PC	New Construction - PCC	\$0.00	0.00	True	UNKNOWN CS
06-01-1967	NC-AC	New Construction - AC	\$0.00	2.00	True	2" P401 AC
06-04-1966	ST-SC	Surface Treatment - Seal Coat	\$0.00	0.00	False	P609 BIT. SURFACE TREATMENT
06-03-1966	BA-AG	Base Course - Aggregate	\$0.00	6.00	False	6" P208 ABC
06-02-1966	SB-AG	Subbase - Aggregate	\$0.00	3.00	False	3" P154 SUBBASE
06-01-1966	SG-CO	Subgrade - Compacted	\$0.00	6.00	False	6" P152 COMPACTED SUBGRADE

Branch - Section ID: R14GR - 004

LCD: 9/1/2001
Use: RUNWAY
Rank: S
Surface: PCC

Length (ft): 1,050.00
Width (ft): 50.00
True Area (sf): 53,372.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	PA-PF	Patching - PCC Full Depth	\$0.00	0.00	False	-
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
09-01-2001	CR-PC	Complete Reconstruction - PCC	\$0.00	0.00	True	UNKNOWN CS
06-01-1967	NC-AC	New Construction - AC	\$0.00	2.00	True	2" P401 AC
06-04-1966	ST-SC	Surface Treatment - Seal Coat	\$0.00	0.00	False	P609 BIT. SURFACE TREATMENT
06-03-1966	BA-AG	Base Course - Aggregate	\$0.00	6.00	False	6" P208 ABC
06-02-1966	SB-AG	Subbase - Aggregate	\$0.00	3.00	False	3" P154 SUBBASE
06-01-1966	SG-CO	Subgrade - Compacted	\$0.00	6.00	False	6" P152 COMPACTED SUBGRADE

Branch - Section ID: T01GR - 001

LCD: 6/1/1994
Use: TAXIWAY
Rank: P
Surface: PCC

Length (ft): 169.00
Width (ft): 27.00
True Area (sf): 4,546.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
06-01-1994	CR-PC	Complete Reconstruction - PCC	\$0.00	0.00	True	EST
06-01-1965	NC-AC	New Construction - AC	\$0.00	0.00	True	-

WORK HISTORY

Pavement Database: IA 2024

Generate Date: 6/30/2025

Network ID: GFZ

Page 4

Branch - Section ID: T01GR - 002

LCD: 9/5/1998
Use: TAXIWAY
Rank: P
Surface: PCC

Length (ft): 169.00
Width (ft): 11.00
True Area (sf): 1,916.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
09-05-1998	NC-IN	New Construction - Initial	\$0.00	0.00	True	-

Branch - Section ID: T02GR - 001

LCD: 6/2/2006
Use: TAXIWAY
Rank: P
Surface: PCC

Length (ft): 1,105.00
Width (ft): 35.00
True Area (sf): 42,229.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2020	SL-PC	Slab Replacement - PCC	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
06-02-2006	NC-PC	New Construction - PCC	\$220,932.00	5.00	True	P-505; Total project Cost: \$290,700
06-01-2006	SB-AG	Subbase - Aggregate	\$0.00	4.00	False	P-154

Branch - Section ID: T03GR - 001

LCD: 6/2/2006
Use: TAXIWAY
Rank: P
Surface: PCC

Length (ft): 316.00
Width (ft): 35.00
True Area (sf): 11,823.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
04-01-2020	CS-PC	Crack Sealing - PCC	\$0.00	0.00	False	Route and seal cracks
04-01-2010	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	AIP Project; Centerline joint only
06-02-2006	NC-PC	New Construction - PCC	\$69,768.00	5.00	True	5" P-501; Total project Cost: \$290,700
06-01-2006	SB-AG	Subbase - Aggregate	\$0.00	4.00	False	4" P-154

Branch - Section ID: TH01GR - 001

LCD: 1/1/1965
Use: T-HANGAR
Rank: P
Surface: AC

Length (ft): 275.00
Width (ft): 15.00
True Area (sf): 4,132.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
01-01-1965	NC-AC	New Construction - AC	\$0.00	0.00	True	DATE UNKNOWN; CONSTRUCTED PRIOR TO 1994 IMAGERY

WORK HISTORY

Pavement Database: IA 2024
Network ID: GFZ

Generate Date: 6/30/2025
Page 5

Branch - Section ID: TH01GR - 002

LCD: 1/1/1965
Use: T-HANGAR
Rank: P
Surface: PCC

Length (ft): 200.00
Width (ft): 15.00
True Area (sf): 2,989.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
01-01-1965	NC-PC	New Construction - PCC	\$0.00	0.00	True	DATE UNKNOWN; CONSTRUCTED PRIOR TO 1994 IMAGERY

Branch - Section ID: TH02GR - 001

LCD: 1/1/2003
Use: T-HANGAR
Rank: P
Surface: PCC

Length (ft): 192.00
Width (ft): 20.00
True Area (sf): 3,841.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
04-01-2020	JS-LC	Joint Seal (Localized)	\$0.00	0.00	False	-
01-01-2003	NC-PC	New Construction - PCC	\$0.00	0.00	True	EST DATE

Branch - Section ID: TH02GR - 002

LCD: 1/1/1965
Use: T-HANGAR
Rank: P
Surface: AC

Length (ft): 230.00
Width (ft): 20.00
True Area (sf): 4,815.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
01-01-1965	NC-AC	New Construction - AC	\$0.00	0.00	True	DATE UNKNOWN; CONSTRUCTED PRIOR TO 1994 IMAGERY

Branch - Section ID: TH02GR - 003

LCD: 1/1/1965
Use: T-HANGAR
Rank: P
Surface: PCC

Length (ft): 180.00
Width (ft): 11.00
True Area (sf): 2,167.00

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major MR	Comments
01-01-1965	NC-PC	New Construction - PCC	\$0.00	0.00	True	CONSTRUCTED PRIOR TO 1994 IMAGERY

APPENDIX E

LOCALIZED PREVENTIVE MAINTENANCE POLICIES AND UNIT COST TABLES

Table E-1. Localized preventive maintenance policy, asphalt-surfaced pavements.

Distress Type	Severity Level	Maintenance Action
Alligator Cracking	Low	Monitor
Alligator Cracking	Medium	Asphalt Patch
Alligator Cracking	High	Asphalt Patch
Bleeding	N/A	Monitor
Block Cracking	Low	Monitor
Block Cracking	Medium	Crack Seal—Asphalt
Block Cracking	High	Crack Seal—Asphalt
Corrugation	Low	Monitor
Corrugation	Medium	Asphalt Patch
Corrugation	High	Asphalt Patch
Depression	Low	Monitor
Depression	Medium	Monitor
Depression	High	Asphalt Patch
Jet-Blast Erosion	N/A	Asphalt Patch
Joint Reflection Cracking	Low	Monitor
Joint Reflection Cracking	Medium	Crack Seal—Asphalt
Joint Reflection Cracking	High	Crack Seal—Asphalt
L&T Cracking	Low	Monitor
L&T Cracking	Medium	Crack Seal—Asphalt
L&T Cracking	High	Crack Seal—Asphalt
Oil Spillage	N/A	Asphalt Patch
Patching	Low	Monitor
Patching	Medium	Asphalt Patch
Patching	High	Asphalt Patch
Polished Aggregate	N/A	Monitor
Raveling	Low	Monitor
Raveling	Medium	Asphalt Patch
Raveling	High	Asphalt Patch
Rutting	Low	Monitor
Rutting	Medium	Monitor
Rutting	High	Asphalt Patch
Shoving	Low	Monitor
Shoving	Medium	Asphalt Patch
Shoving	High	Asphalt Patch
Slippage Cracking	N/A	Asphalt Patch
Swelling	Low	Monitor
Swelling	Medium	Monitor
Swelling	High	Asphalt Patch
Weathering	Low	Monitor
Weathering	Medium	Monitor
Weathering	High	Asphalt Patch

Table E-2. Localized preventive maintenance policy, PCC pavements.

Distress Type	Severity Level	Maintenance Action
ASR	Low	Monitor
ASR	Medium	Slab Replacement
ASR	High	Slab Replacement
Blowup	Low	Slab Replacement
Blowup	Medium	Slab Replacement
Blowup	High	Slab Replacement
Corner Break	Low	Crack Seal—PCC
Corner Break	Medium	Full Depth PCC Patch
Corner Break	High	Full Depth PCC Patch
Durability Cracking	Low	Monitor
Durability Cracking	Medium	Full Depth Patch
Durability Cracking	High	Slab Replacement
Faulting	Low	Monitor
Faulting	Medium	Grinding
Faulting	High	Slab Replacement
Joint Seal Damage	Low	Monitor
Joint Seal Damage	Medium	Joint Seal
Joint Seal Damage	High	Joint Seal
LTD Cracking	Low	Monitor
LTD Cracking	Medium	Crack Seal—PCC
LTD Cracking	High	Slab Replacement
Patching (Small and Large)	Low	Monitor
Patching (Small and Large)	Medium	Full Depth PCC Patch
Patching (Small and Large)	High	Full Depth PCC Patch
Popouts	N/A	Monitor
Pumping	N/A	Monitor
Scaling	Low	Monitor
Scaling	Medium	Partial Depth PCC Patch
Scaling	High	Slab Replacement
Shattered Slab	Low	Crack Seal—PCC
Shattered Slab	Medium	Slab Replacement
Shattered Slab	High	Slab Replacement
Shrinkage Cracking	N/A	Monitor
Spalling (Joint and Corner)	Low	Monitor
Spalling (Joint and Corner)	Medium	Partial Depth PCC Patch
Spalling (Joint and Corner)	High	Partial Depth PCC Patch

Table E-3. 2025 unit costs for localized preventive maintenance actions.

Maintenance Action	Unit Cost
Asphalt Patch—Asphalt-Surfaced Pavement	\$15.90/sf
Crack Sealing—Asphalt-Surfaced Pavement	\$2.72/lf
Partial Depth PCC Patch—PCC Pavement	\$40.74/sf
Full Depth PCC Patch—PCC Pavement	\$18.19/sf
Crack Sealing—PCC Pavement	\$3.27/lf
Joint Sealing—PCC Pavement	\$3.27/lf
Grinding—PCC Pavement	\$0.39/sf
Slab Replacement—PCC Pavement	\$18.19/sf

Table Note: The unit cost estimates are based on broad statewide numbers and should be adjusted to reflect local costs.

Table E-4. 2025 unit costs (per square foot) based on pavement type and PCI ranges.

Pavement Type	PCI Range 0–40	PCI Range 40–50	PCI Range 50–60	PCI Range 60–70	PCI Range 70–80	PCI Range 80–90	PCI Range 90–100
Asphalt-surfaced	\$11.29	\$5.34	\$5.34	\$5.34	\$0.00	\$0.00	\$0.00
PCC	\$18.86	\$8.92	\$8.92	\$8.92	\$0.00	\$0.00	\$0.00

Table Notes:

- The unit cost estimates are based on broad statewide numbers and should be adjusted to reflect local costs.
- Pavement Type: Asphalt-surfaced = AC (asphalt cement concrete), AAC (asphalt overlay on AC), or APC (asphalt overlay on PCC); PCC = portland cement concrete

APPENDIX F

YEAR 2025 LOCALIZED PREVENTIVE MAINTENANCE DETAILS

Table F-1. Year 2025 localized preventive maintenance details.

Branch	Section	Distress Type	Severity	Distress Quantity	Distress Unit	Maintenance Action	Unit Cost	2025 Estimated Cost
A01GR	01	ASR	Medium	11	Slabs	Slab Replacement - PCC	\$18.19	\$23,285
A01GR	01	Corner Spalling	Medium	2	Slabs	Patching - PCC Partial Depth	\$40.74	\$200
A01GR	01	Joint Seal Damage	Medium	150	Slabs	Joint Seal (Localized)	\$3.27	\$9,909
A01GR	01	Joint Seal Damage	High	36	Slabs	Joint Seal (Localized)	\$3.27	\$2,417
A01GR	01	LTD Cracking	Medium	2	Slabs	Crack Sealing - PCC	\$3.27	\$65
A02GR	01	Corner Break	Low	2	Slabs	Crack Sealing - PCC	\$3.27	\$52
A02GR	01	Joint Seal Damage	Medium	208	Slabs	Joint Seal (Localized)	\$3.27	\$14,020
A02GR	01	Joint Seal Damage	High	39	Slabs	Joint Seal (Localized)	\$3.27	\$2,596
R07GR	01	ASR	Medium	9	Slabs	Slab Replacement - PCC	\$18.19	\$16,538
R07GR	01	Corner Break	Low	9	Slabs	Crack Sealing - PCC	\$3.27	\$244
R07GR	01	Corner Spalling	Medium	73	Slabs	Patching - PCC Partial Depth	\$40.74	\$7,974
R07GR	01	Joint Seal Damage	Medium	873	Slabs	Joint Seal (Localized)	\$3.27	\$52,238
R07GR	01	Joint Spalling	Medium	9	Slabs	Patching - PCC Partial Depth	\$40.74	\$2,392
R07GR	02	Joint Seal Damage	Medium	95	Slabs	Joint Seal (Localized)	\$3.27	\$5,746
R07GR	02	LTD Cracking	Medium	4	Slabs	Crack Sealing - PCC	\$3.27	\$135
R14GR	01	Corner Break	Low	4	Slabs	Crack Sealing - PCC	\$3.27	\$118
R14GR	01	Corner Spalling	Medium	4	Slabs	Patching - PCC Partial Depth	\$40.74	\$482
R14GR	01	Joint Spalling	Medium	4	Slabs	Patching - PCC Partial Depth	\$40.74	\$1,157
R14GR	01	LTD Cracking	Medium	9	Slabs	Crack Sealing - PCC	\$3.27	\$263
R14GR	03	Corner Break	Low	1	Slabs	Crack Sealing - PCC	\$3.27	\$27
R14GR	03	Joint Seal Damage	Medium	74	Slabs	Joint Seal (Localized)	\$3.27	\$4,084
R14GR	04	Joint Spalling	Medium	4	Slabs	Patching - PCC Partial Depth	\$40.74	\$1,001

Table F-1. Year 2025 localized preventive maintenance details (continued).

Branch	Section	Distress Type	Severity	Distress Quantity	Distress Unit	Maintenance Action	Unit Cost	2025 Estimated Cost
T02GR	01	ASR	Medium	3	Slabs	Slab Replacement - PCC	\$18.19	\$5,264
T02GR	01	Corner Spalling	Medium	3	Slabs	Patching - PCC Partial Depth	\$40.74	\$330
T02GR	01	Joint Seal Damage	Medium	439	Slabs	Joint Seal (Localized)	\$3.27	\$24,265
T02GR	01	LTD Cracking	Medium	3	Slabs	Crack Sealing - PCC	\$3.27	\$97
T03GR	01	Corner Break	Low	2	Slabs	Crack Sealing - PCC	\$3.27	\$48
T03GR	01	Joint Seal Damage	Medium	150	Slabs	Joint Seal (Localized)	\$3.27	\$7,487
TH02GR	01	ASR	Medium	2	Slabs	Slab Replacement - PCC	\$18.19	\$3,820
TH02GR	01	Joint Seal Damage	High	37	Slabs	Joint Seal (Localized)	\$3.27	\$1,759

Table Notes:

1. See Figure 3 for the location of the branch and section.
2. Distress types are defined by ASTM D5340. L&T cracking = longitudinal and transverse cracking; LTD cracking = longitudinal, transverse, and diagonal cracking; ASR = alkali-silica reaction.
3. The costs provided are of a general nature for the entire State and may require adjustments to reflect specific conditions at Greenfield Municipal Airport.



PREPARED FOR

Iowa Department of Transportation
Modal Transportation Bureau
800 Lincoln Way
Ames, Iowa 50010
515-239-1691
<https://iowadot.gov/modes-travel/aviation>

AUGUST 2025