

# Newton Municipal Airport– Earl Johnson Field

## PAVEMENT MANAGEMENT REPORT



### PREPARED BY

Applied Pavement Technology, Inc.  
115 West Main Street, Suite 400  
Urbana, Illinois 61801  
(217) 398-3977  
[www.appliedpavement.com](http://www.appliedpavement.com)

**JULY 2022**



The preparation of this document was financed in part through an Airport Improvement Program grant from the Federal Aviation Administration (Project Number 3-19-0000-028-2021) 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.

# NEWTON MUNICIPAL AIRPORT-EARL JOHNSON FIELD

## PAVEMENT MANAGEMENT REPORT

### Prepared For:



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

### Prepared By:



Applied Pavement Technology, Inc.  
115 West Main Street, Suite 400  
Urbana, Illinois 61801  
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.....  | 7  |
| Inspection Comments.....  | 12 |
| Runway .....  | 12 |
| Taxiways.....   | 12 |
| Aprons.....   | 13 |
| T-Hangars .....   | 13 |
| PAVEMENT MAINTENANCE AND REHABILITATION PROGRAM .....                                     | 14 |
| Analysis Parameters.....  | 14 |
| Critical PCIs.....  | 14 |
| Localized Preventive Maintenance Policies and Unit Costs.....                             | 14 |
| Major Rehabilitation Unit Costs .....   | 14 |
| Budget and Inflation Rate .....   | 14 |
| Analysis Approach.....  | 14 |
| Analysis Results.....   | 15 |
| General Maintenance Recommendations .....   | 16 |
| FAA Requirements (Public Law 103-305).....  | 16 |
| FAA Advisory Circular 150/5830-7B, Appendix A. Pavement Management Program<br>(PMP) ..... | 17 |
| SUMMARY .....   | 23 |

## LIST OF FIGURES

|  |   |
|--|---|
| Figure 1. Pavement condition versus cost of repair.....                                      | 1 |
| Figure 2. Pavement area by branch use at Newton Municipal Airport-Earl Johnson Field. ....   | 4 |
| Figure 3. Newton Municipal Airport-Earl Johnson Field 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 Newton Municipal Airport-Earl Johnson Field. ....    | 8 |
| Figure 7. Area-weighted PCI by branch use at Newton Municipal Airport-Earl Johnson Field.... | 8 |
| Figure 8. Newton Municipal Airport-Earl Johnson Field PCI map.....                           | 9 |



## LIST OF TABLES

|  |    |
|--|----|
| Table 1. 2021 pavement evaluation results.....                                 | 10 |
| Table 2. 5-year M&R program under an unlimited funding analysis scenario. .... | 15 |
| Table 3. Pavement inspection report.....                                       | 19 |

## APPENDIXES

|  |     |
|--|-----|
| Appendix A. Cause of Distress Tables .....                                       | A-1 |
| Appendix B. Inspection Photographs .....   | B-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 2022 Localized Preventive Maintenance Details .....             | F-1 |

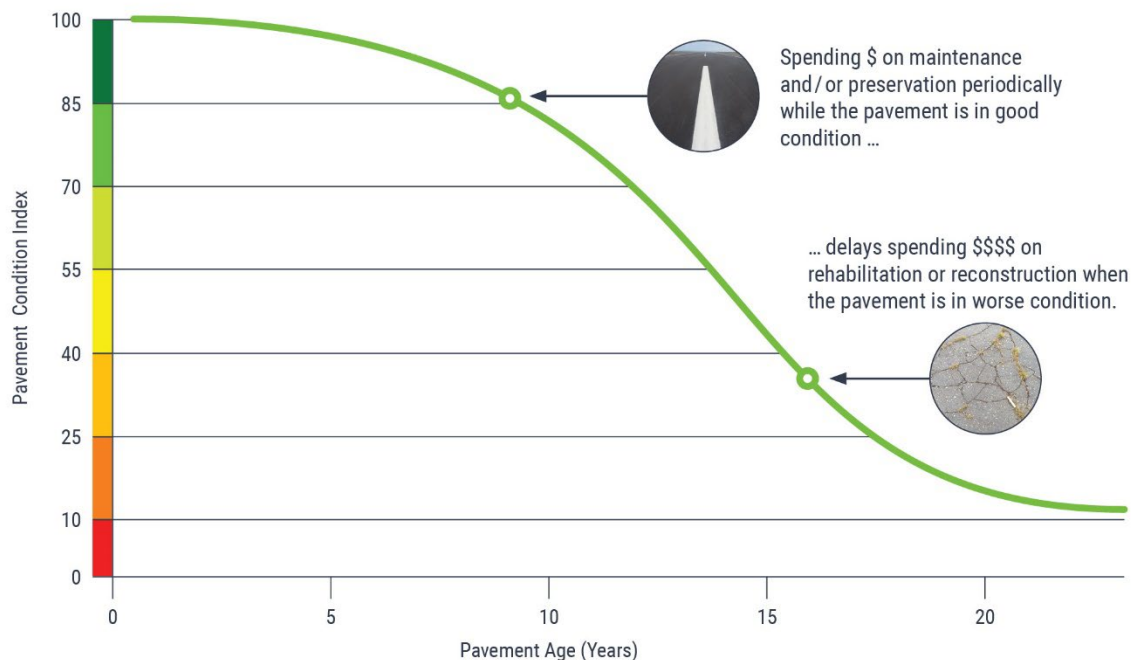
## INTRODUCTION

Applied Pavement Technology, Inc. (APTech), with assistance from Robinson Engineering Company, updated the Airport Pavement Management System (APMS) for the Iowa Department of Transportation, Modal Transportation Bureau – Aviation (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 Newton Municipal Airport-Earl Johnson Field were assessed in November 2021 using the Pavement Condition Index (PCI) procedure. During a PCI inspection, the types, severities, and amounts of distress present in a pavement 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 information is 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 Newton Municipal Airport-Earl Johnson Field are presented within this report and can be used by Newton Municipal Airport-Earl Johnson Field, 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 interactive pavement management data visualization tool IDEA, containing the pavement management information collected during this project, was updated and may be accessed from the Iowa DOT's website (<https://iowadot.gov/aviation>).

## PAVEMENT INVENTORY

The project began with a review of the existing inventory information pertaining to the pavements at Newton Municipal Airport-Earl Johnson Field. 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 2018.

The pavement network at Newton Municipal Airport-Earl Johnson Field 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 1,189,700 square feet of pavement were evaluated at Newton Municipal Airport-Earl Johnson Field, 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 Newton Municipal Airport-Earl Johnson Field.

Figure 2. Pavement area by branch use at Newton Municipal Airport-Earl Johnson Field.

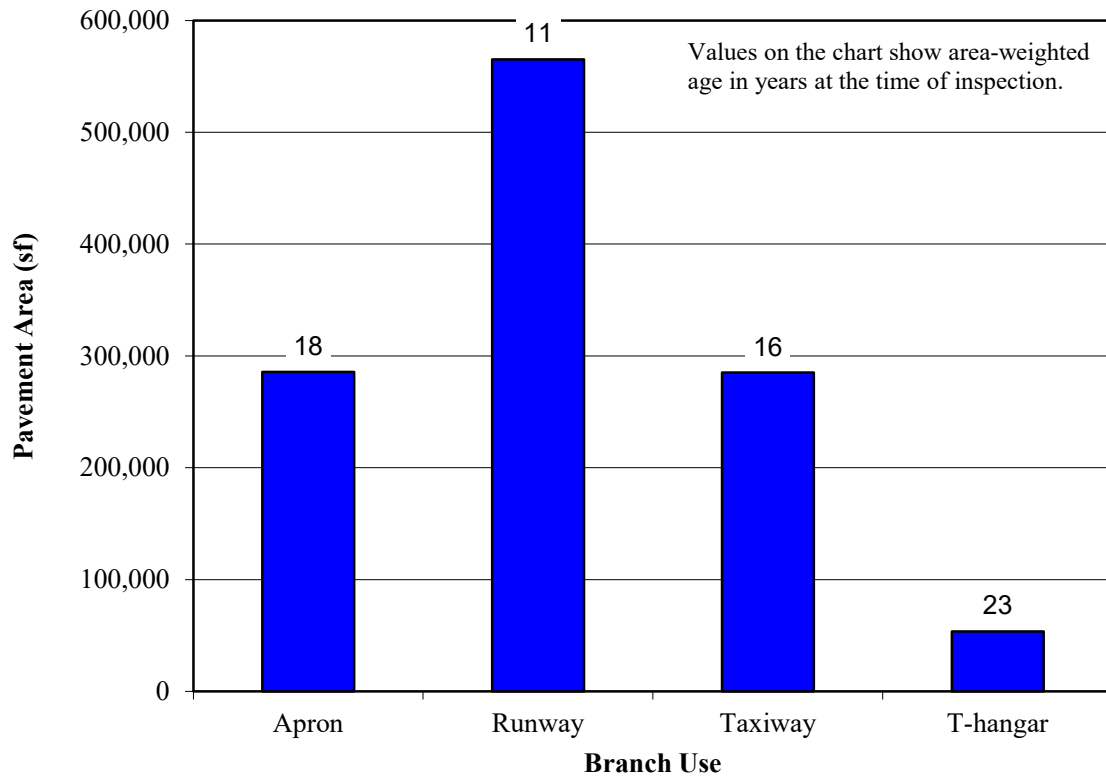
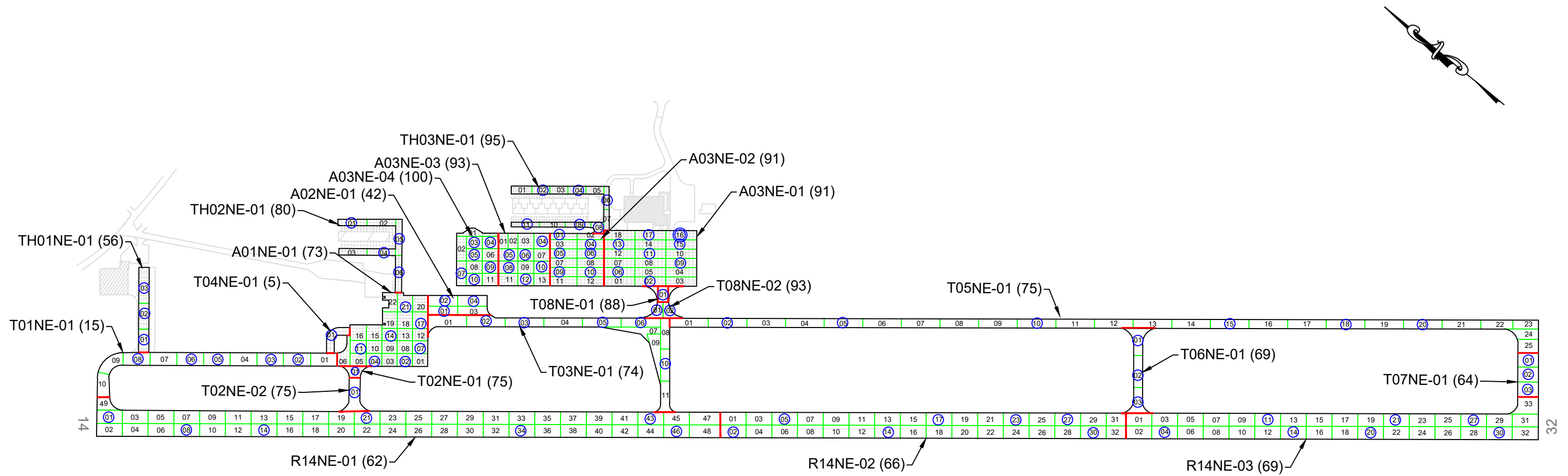


FIGURE 3. NETWORK DEFINITION MAP.



**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 |

**applied pavement TECHNOLOGY**  
 115 W. Main Street, Suite 400  
 Urbana, IL 61801  
 Tel: (217) 398-3977  
 Fax: (217) 398-4027

AGENCY: Iowa Department of Transportation  
 Modal Transportation Bureau - Aviation

LOCATION: Newton Municipal - Earl Johnson Field Airport  
 Newton, Iowa

PAGE TITLE: Network Definition Map

|                             |                                  |                                  |                            |
|-----------------------------|----------------------------------|----------------------------------|----------------------------|
| PROJECT DATE:<br>SEP. 2021  | CREATION DATE:<br>SEP. 2021      | PROJECT MANAGER:<br>LJR          | JOB NUMBER:<br>17-020-AM05 |
| DRAWING SCALE:<br>1" = 400' | LAST MODIFIED DATE:<br>JAN. 2022 | REVISED BY:<br>DMS               | DRAWN BY:<br>DSP           |
| FILENAME:<br>Newton.dwg     |                                  | LAYOUT NAME/NUMBER:<br>NET. DEF. | PAGE NUMBER:<br>5          |

## PAVEMENT EVALUATION

### Pavement Evaluation Procedure

APTech inspected the pavements at Newton Municipal Airport-Earl Johnson Field using the PCI procedure described in:

- FAA Advisory Circular 150/5380-6C, *Guidelines and Procedures for Maintenance of Airport Pavements* ([https://www.faa.gov/documentLibrary/media/Advisory\\_Circular/150-5380-6C.pdf](https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5380-6C.pdf)).
- FAA Advisory Circular 150/5380-7B, *Airport Pavement Management Program (PMP)* ([https://www.faa.gov/documentLibrary/media/Advisory\\_Circular/150-5380-7B.pdf](https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5380-7B.pdf)).
- ASTM D5340-20, *Standard Test Method for Airport Pavement Condition Index Surveys*.

The PCI provides a numerical indication of overall pavement condition, as illustrated in Figure 4. The types and amounts of deterioration are used to calculate the PCI of the section. 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. 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<sup>1</sup>.



<sup>1</sup>Photographs shown are not specific to Newton Municipal Airport-Earl Johnson Field.

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     | Reconstruction         |
| 11-25     |                        |
| 0-10      |                        |

The types of distress identified during the PCI inspection provide insight into the cause of pavement deterioration, which in turn helps in selecting a rehabilitation alternative that corrects the cause, thus eliminating or delaying its recurrence. PCI distress types are characterized as load-related (such as alligator cracking on asphalt-surfaced pavements or shattered slabs on portland cement concrete [PCC] pavements), climate/durability-related (such as weathering [a climate-related distress type on asphalt-surfaced pavements] and durability cracking [a durability-related distress type on PCC pavements]), and other (distress types that cannot be attributed solely to load or climate/durability).

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 Newton Municipal Airport-Earl Johnson Field were inspected in November 2021. The 2021 area-weighted condition of Newton Municipal Airport-Earl Johnson Field is 70, with conditions ranging from 5 to 100 (on a scale of 0 [failed] to 100 [excellent]). During the previous pavement inspection in 2018, the area-weighted PCI of the airport was 75.

Figure 6 summarizes the overall condition of the pavements at Newton Municipal Airport-Earl Johnson Field, 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 Newton Municipal Airport-Earl Johnson Field.

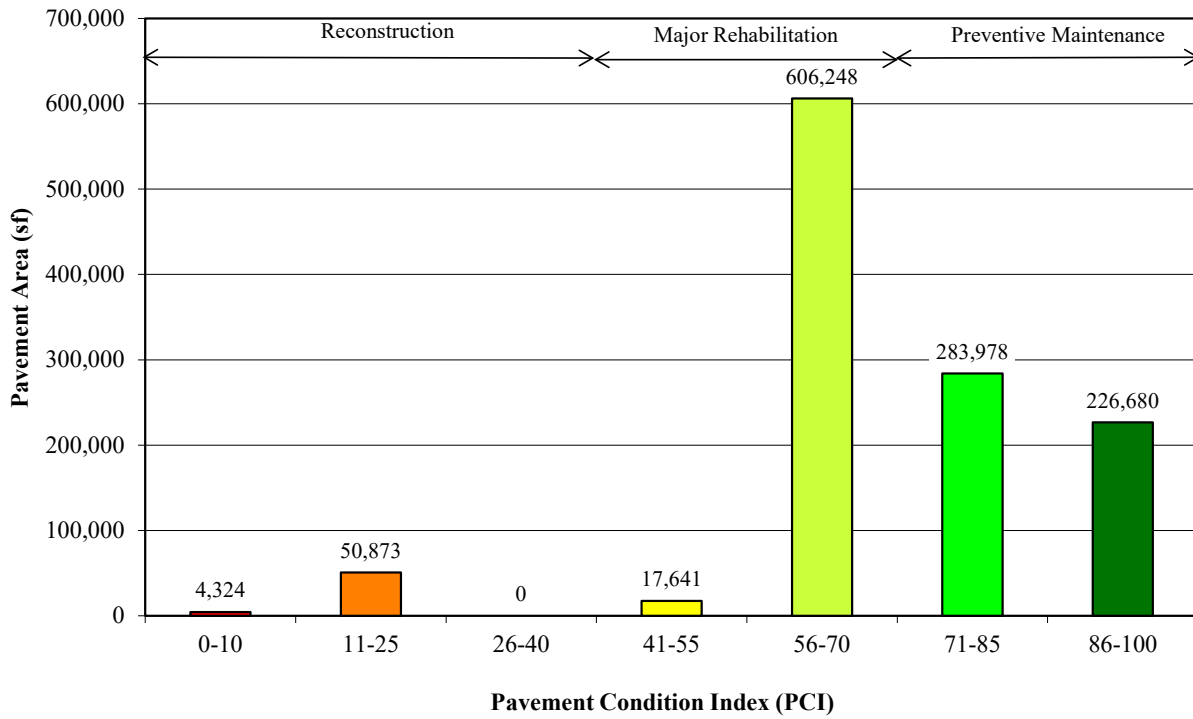


Figure 7. Area-weighted PCI by branch use at Newton Municipal Airport-Earl Johnson Field.

(Values on chart are area-weighted)

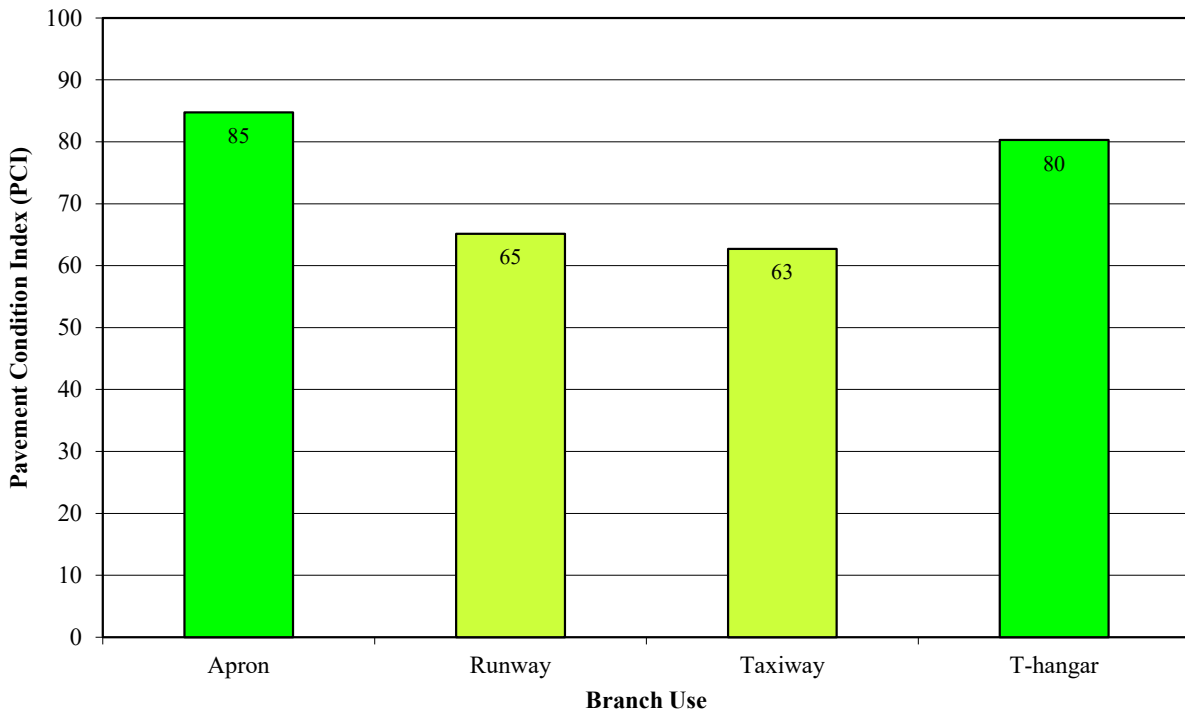
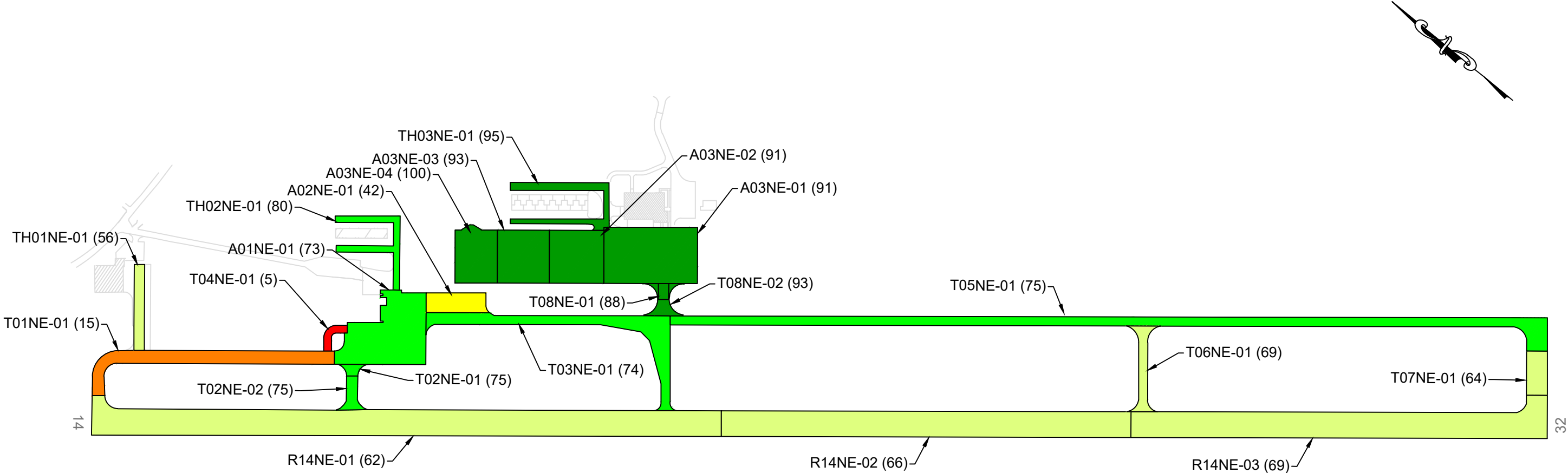


FIGURE 8. PCI MAP.



**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**  
 115 W. Main Street, Suite 400  
 Urbana, IL 61801  
 Tel: (217) 398-3977  
 Fax: (217) 398-4027

**Robinson Engineering Company**  
 Consulting Engineers  
 322 1st Street East  
 Independence, IA 50644  
 Tel: (319) 334-7211

AGENCY: Iowa Department of Transportation  
 Modal Transportation Bureau - Aviation

LOCATION: Newton Municipal - Earl Johnson Field Airport  
 Newton, Iowa

PAGE TITLE: 2021 Pavement Condition Index Map

|                             |                                  |                            |                            |
|-----------------------------|----------------------------------|----------------------------|----------------------------|
| PROJECT DATE:<br>SEP. 2021  | CREATION DATE:<br>SEP. 2021      | PROJECT MANAGER:<br>LJR    | JOB NUMBER:<br>17-020-AM05 |
| DRAWING SCALE:<br>1" = 400' | LAST MODIFIED DATE:<br>APR. 2022 | REVISED BY:<br>DMS         | DRAWN BY:<br>DSP           |
| FILENAME:<br>Newton.dwg     |                                  | LAYOUT NAME/NUMBER:<br>PCI | PAGE NUMBER:<br>9          |

Table 1. 2021 pavement evaluation results.

| Branch | Section | Surface Type | Section Area (sf) | LCD      | 2021 PCI | % Distress Due to Load | % Distress Due to Climate/ Durability | % Distress Due to Other | Type of Distress   |
|--------|---------|--------------|-------------------|----------|----------|------------------------|---------------------------------------|-------------------------|--|
| A01NE  | 01      | PCC          | 72,604            | 7/1/1989 | 73       | 28                     | 31                                    | 41                      | ASR, Corner Break, Corner Spalling, Faulting, Joint Spalling, Joint Seal Damage, Large Patch, LTD Cracking       |
| A02NE  | 01      | AC           | 17,641            | 7/1/1988 | 42       | 0                      | 100                                   | 0                       | Block Cracking, Weathering   |
| A03NE  | 01      | PCC          | 77,760            | 6/1/2003 | 91       | 0                      | 44                                    | 56                      | Corner Spalling, Joint Spalling, Joint Seal Damage, Large Patch  |
| A03NE  | 02      | PCC          | 42,840            | 6/3/2010 | 91       | 0                      | 80                                    | 20                      | Faulting, Joint Seal Damage, Shrinkage Cracking  |
| A03NE  | 03      | PCC          | 40,800            | 6/3/2013 | 93       | 0                      | 100                                   | 0                       | Joint Seal Damage  |
| A03NE  | 04      | PCC          | 34,110            | 5/3/2019 | 100      | 0                      | 0                                     | 0                       | No Distresses  |
| R14NE  | 01      | AAC          | 244,296           | 5/1/2010 | 62       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |
| R14NE  | 02      | AAC          | 155,807           | 5/1/2010 | 66       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |
| R14NE  | 03      | AAC          | 165,142           | 4/1/2010 | 69       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |
| T01NE  | 01      | AAC          | 50,873            | 7/1/1988 | 15       | 35                     | 65                                    | 0                       | Alligator Cracking, L&T Cracking, Patching, Raveling, Weathering   |
| T02NE  | 01      | PCC          | 2,799             | 7/1/1989 | 75       | 13                     | 39                                    | 48                      | Corner Spalling, Faulting, Joint Seal Damage, LTD Cracking, Shrinkage Cracking                                   |
| T02NE  | 02      | AAC          | 6,629             | 4/1/2010 | 75       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |
| T03NE  | 01      | AAC          | 57,618            | 4/1/2010 | 74       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |
| T04NE  | 01      | PCC          | 4,324             | 7/1/1955 | 5        | 53                     | 6                                     | 41                      | Corner Break, Corner Spalling, Joint Spalling, Joint Seal Damage, LTD Cracking, Popouts, Scaling, Shattered Slab |
| T05NE  | 01      | AAC          | 126,127           | 4/1/2010 | 75       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |
| T06NE  | 01      | AAC          | 14,033            | 4/1/2010 | 69       | 0                      | 100                                   | 0                       | L&T Cracking, Weathering   |

Table 1. 2021 pavement evaluation results (continued).

| Branch | Section | Surface Type | Section Area (sf) | LCD      | 2021 PCI | % Distress Due to Load | % Distress Due to Climate/Durability | % Distress Due to Other | Type of Distress  |
|--------|---------|--------------|-------------------|----------|----------|------------------------|--------------------------------------|-------------------------|---|
| T07NE  | 01      | AAC          | 13,745            | 4/1/2010 | 64       | 0                      | 99                                   | 1                       | Depression, L&T Cracking, Raveling, Weathering  |
| T08NE  | 01      | PCC          | 2,465             | 6/1/2003 | 88       | 0                      | 59                                   | 41                      | Corner Spalling, Joint Seal Damage  |
| T08NE  | 02      | PCC          | 6,461             | 4/3/2010 | 93       | 0                      | 100                                  | 0                       | Joint Seal Damage   |
| TH01NE | 01      | PCC          | 13,225            | 1/1/1970 | 56       | 36                     | 26                                   | 38                      | ASR, Corner Spalling, Joint Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking |
| TH02NE | 01      | PCC          | 18,201            | 7/3/2011 | 80       | 53                     | 28                                   | 19                      | Faulting, Joint Seal Damage, LTD Cracking, Shrinkage Cracking, Small Patch                |
| TH03NE | 01      | PCC          | 22,244            | 5/3/2005 | 95       | 18                     | 33                                   | 49                      | Faulting, Joint Spalling, Joint Seal Damage, LTD Cracking, Shrinkage Cracking             |

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 D5340-20. L&T Cracking = Longitudinal and Transverse Cracking; LTD Cracking = Longitudinal, Transverse, and Diagonal Cracking; ASR = Alkali-Silica Reaction.

## Inspection Comments

Newton Municipal Airport-Earl Johnson Field was inspected on November 13, 2021. There were twenty-two pavement sections defined during the inspection. Suspected alkali-silica reaction (ASR) was recorded at this airport in accordance with ASTM D5340-20. 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.

### *Runway*

Runway 14/32 was defined by three sections that contained all severities of longitudinal and transverse (L&T) cracking and low-severity weathering. In all three sections, the low-severity L&T cracking was unsealed, while the medium-severity L&T cracking was recorded where either unsealed crack widths exceeded  $\frac{1}{4}$  in, secondary cracking had developed, or where crack sealant was unsatisfactory. High-severity L&T cracking was recorded where secondary cracking had developed that was greater than 1 ft wide.

### *Taxiways*

Taxiway 01 connected the Runway 14 approach with Apron 01 and consisted of one section. Section 01 contained medium- and high-severity alligator cracking; medium-severity L&T cracking, raveling, and weathering; and high-severity patching. The medium-severity L&T cracking was recorded where unsealed crack widths exceeded  $\frac{1}{4}$  in.

Taxiway 02 contained two sections that connected Runway 14/32 with Apron 01. Low-severity corner spalling, faulting, and longitudinal, transverse, and diagonal (LTD) cracking; high-severity joint seal damage; and shrinkage cracking were observed in Section 01. Section 02 had low- and medium-severity L&T cracking and low-severity weathering recorded throughout. The low-severity L&T cracking was unsealed, while the medium-severity L&T cracking was noted where the crack sealant had failed.

Taxiway 03 was defined by one section that had all severities of L&T cracking and low-severity weathering. The low-severity L&T cracking was both sealed and unsealed, while the medium-severity L&T cracking was recorded where either unsealed cracks exceeded  $\frac{1}{4}$  in in width, secondary cracking had developed, or where crack sealant was unsatisfactory. The high-severity L&T cracking was recorded where secondary cracking was greater than 1 ft wide.

Taxiway 04 contained one section. Section 01 was in poor condition with all severities of joint spalling, low- and medium-severity corner spalling, medium-severity shattered slab and LTD cracking, high-severity joint seal damage and scaling, medium- and high-severity corner break, and popouts noted during the inspection.

Taxiway 05 consisted of one section that contained all severities of L&T cracking and low-severity weathering. The low-severity L&T cracking was both sealed and unsealed, while the medium-severity L&T cracking was recorded where either the unsealed crack widths were greater than  $\frac{1}{4}$  in, secondary cracking had developed, or crack sealant had failed. High-severity L&T cracking was recorded where secondary cracking wider than 1 ft had developed.

Taxiway 06 connected the parallel taxiway with the runway and contained one section. Low- and medium-severity L&T cracking and low-severity weathering were observed in Section 01. The low-severity L&T cracking was both sealed and unsealed, while the medium-severity L&T

cracking was recorded where either unsealed crack widths were greater than  $\frac{1}{4}$  in or where crack sealant was unsatisfactory.

Taxiway 07 connected the Runway 32 approach to the parallel taxiway and was defined by one section that had areas of low-severity depression and weathering, all severities of L&T cracking, and high-severity raveling noted during the inspection. The low-severity L&T cracking was unsealed, while the medium-severity L&T cracking was recorded where either unsealed crack widths were greater than  $\frac{1}{4}$  in., secondary cracking had developed, or where crack sealant had failed. High-severity L&T cracking was recorded where secondary cracking exceeded 1 ft in width.

Taxiway 08 was divided into two sections. Medium-severity joint seal damage was identified throughout both sections. Additionally, medium-severity corner spalling was observed in Section 01.

### *Aprons*

Apron 01 consisted of one section that had areas of low- and medium-severity ASR, LTD cracking, joint spalling, and corner spalling; medium-severity corner break; low-severity large patching and faulting; and high-severity joint seal damage recorded during the inspection.

Apron 02 contained one section. Medium-severity block cracking and weathering were observed throughout Section 01.

Apron 03 was defined by four sections. Section 01 contained low-severity corner spalling, medium- and high-severity joint spalling, and medium-severity joint seal damage. An atypical area with low- and high-severity large patching was identified and recorded as an additional sample unit, in accordance with ASTM D5340-20. Low-severity faulting, medium-severity joint seal damage, and shrinkage cracking were observed in Section 02. Only medium-severity joint seal damage was identified throughout Section 03. Section 04 was in excellent condition with no distress noted at the time of inspection.

### *T-Hangars*

T-hangar 01 consisted of one section that contained low- and medium-severity ASR and LTD cracking, medium-severity corner spalling, medium- and high-severity joint seal damage and joint spalling, and shrinkage cracking.

T-hangar 02 was defined by one section. Low-severity faulting, medium-severity joint seal damage, low- and medium-severity LTD cracking and small patching, and shrinkage cracking were recorded in Section 01.

T-hangar 03 contained one section. Section 01 was in excellent condition with low-severity faulting, joint seal damage, and LTD cracking; low- and medium-severity joint spalling; and shrinkage cracking observed during the inspection.



## 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 Newton Municipal Airport-Earl Johnson Field. 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 for 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 adjustment to reflect specific conditions at Newton Municipal Airport-Earl Johnson Field.

#### *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, 2022 and an inflation rate of 4.0 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 (2022) 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 2023 or 2024, then localized preventive maintenance was not recommended for 2022. While localized preventive maintenance should be an annual undertaking at Newton Municipal Airport-Earl Johnson Field, 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

2022 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 Newton Municipal Airport-Earl Johnson Field is presented in Table 2. Detailed information on the recommended localized preventive maintenance plan for 2022 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 |
|------|--------|---------|--------------|------------------------|----------------|
| 2022 | A01NE  | 01      | PCC          | Preventive Maintenance | \$56,947       |
| 2022 | A02NE  | 01      | AC           | Major Rehabilitation   | \$176,372      |
| 2022 | A03NE  | 01      | PCC          | Preventive Maintenance | \$35,367       |
| 2022 | A03NE  | 02      | PCC          | Preventive Maintenance | \$18,156       |
| 2022 | A03NE  | 03      | PCC          | Preventive Maintenance | \$18,905       |
| 2022 | R14NE  | 01      | AAC          | Major Rehabilitation   | \$1,205,149    |
| 2022 | T01NE  | 01      | AAC          | Major Rehabilitation   | \$529,813      |
| 2022 | T02NE  | 01      | PCC          | Preventive Maintenance | \$1,229        |
| 2022 | T02NE  | 02      | AAC          | Preventive Maintenance | \$299          |
| 2022 | T03NE  | 01      | AAC          | Preventive Maintenance | \$3,129        |
| 2022 | T04NE  | 01      | PCC          | Major Rehabilitation   | \$75,160       |
| 2022 | T05NE  | 01      | AAC          | Preventive Maintenance | \$4,925        |
| 2022 | T06NE  | 01      | AAC          | Preventive Maintenance | \$1,423        |
| 2022 | T08NE  | 01      | PCC          | Preventive Maintenance | \$1,034        |
| 2022 | T08NE  | 02      | PCC          | Preventive Maintenance | \$3,088        |
| 2022 | TH01NE | 01      | PCC          | Major Rehabilitation   | \$108,735      |
| 2022 | TH02NE | 01      | PCC          | Preventive Maintenance | \$5,393        |
| 2022 | TH03NE | 01      | PCC          | Preventive Maintenance | \$425          |
| 2023 | R14NE  | 02      | AAC          | Major Rehabilitation   | \$799,364      |
| 2023 | T07NE  | 01      | AAC          | Major Rehabilitation   | \$70,518       |
| 2024 | R14NE  | 03      | AAC          | Major Rehabilitation   | \$881,148      |
| 2025 | T06NE  | 01      | AAC          | Major Rehabilitation   | \$77,871       |

**Total Estimated Cost: \$4,074,000**

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 adjustment to reflect specific conditions at Newton Municipal Airport-Earl Johnson Field.

The recommendations made in this report are based on a broad network-level analysis and meant to provide Newton Municipal Airport-Earl Johnson Field 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 Newton Municipal Airport-Earl Johnson Field 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, Newton Municipal Airport-Earl Johnson Field 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 as a result of inspections. These need 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 of extending the life of the pavement system.
5. Ensure that dirt does not build up along the edges of the pavements. This can create a “bathtub” effect, reducing the ability of water to drain away from the pavement system.
6. Closely monitor the movement of heavy equipment (particularly farming, construction, 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 Newton Municipal Airport-Earl Johnson Field 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, Newton Municipal Airport-Earl Johnson Field 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 (PMP). 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 words are direct quotations from the FAA Advisory Circular.

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

***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 Newton Municipal Airport-Earl Johnson Field. 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 (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 Newton Municipal Airport-Earl Johnson Field is listed in Table 1 of this report and is also stored in the PAVER database. Any changes to 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 Newton Municipal Airport-Earl Johnson Field 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: \_\_\_\_\_

| <b>Branch</b> | <b>Section</b> | <b>Distress Description/Dimensions/Severity/<br/>Recommended Action</b> | <b>Description of<br/>Repair</b> | <b>Date<br/>Performed</b> | <b>Cost</b> | <b>Funding<br/>Source</b> |
|---------------|----------------|---|----------------------------------|---------------------------|-------------|---------------------------|
| A01NE         | 01             |   |                                  |                           |             |                           |
| A02NE         | 01             |   |                                  |                           |             |                           |
| A03NE         | 01             |   |                                  |                           |             |                           |
| A03NE         | 02             |   |                                  |                           |             |                           |
| A03NE         | 03             |   |                                  |                           |             |                           |
| A03NE         | 04             |   |                                  |                           |             |                           |

Table 3. Pavement inspection report (continued).

Inspected By: \_\_\_\_\_

Date Inspected: \_\_\_\_\_

| <b>Branch</b> | <b>Section</b> | <b>Distress Description/Dimensions/Severity/<br/>Recommended Action</b> | <b>Description of<br/>Repair</b> | <b>Date<br/>Performed</b> | <b>Cost</b> | <b>Funding<br/>Source</b> |
|---------------|----------------|---|----------------------------------|---------------------------|-------------|---------------------------|
| R14NE         | 01             |   |                                  |                           |             |                           |
| R14NE         | 02             |   |                                  |                           |             |                           |
| R14NE         | 03             |   |                                  |                           |             |                           |
| T01NE         | 01             |   |                                  |                           |             |                           |
| T02NE         | 01             |   |                                  |                           |             |                           |
| T02NE         | 02             |   |                                  |                           |             |                           |



Table 3. Pavement inspection report (continued).

Inspected By: \_\_\_\_\_

Date Inspected: \_\_\_\_\_

| <b>Branch</b> | <b>Section</b> | <b>Distress Description/Dimensions/Severity/<br/>Recommended Action</b> | <b>Description of<br/>Repair</b> | <b>Date<br/>Performed</b> | <b>Cost</b> | <b>Funding<br/>Source</b> |
|---------------|----------------|---|----------------------------------|---------------------------|-------------|---------------------------|
| T03NE         | 01             |   |                                  |                           |             |                           |
| T04NE         | 01             |   |                                  |                           |             |                           |
| T05NE         | 01             |   |                                  |                           |             |                           |
| T06NE         | 01             |   |                                  |                           |             |                           |
| T07NE         | 01             |   |                                  |                           |             |                           |
| T08NE         | 01             |   |                                  |                           |             |                           |

Table 3. Pavement inspection report (continued).

Inspected By: \_\_\_\_\_

Date Inspected: \_\_\_\_\_

| <b>Branch</b> | <b>Section</b> | <b>Distress Description/Dimensions/Severity/<br/>Recommended Action</b> | <b>Description of<br/>Repair</b> | <b>Date<br/>Performed</b> | <b>Cost</b> | <b>Funding<br/>Source</b> |
|---------------|----------------|---|----------------------------------|---------------------------|-------------|---------------------------|
| T08NE         | 02             |   |                                  |                           |             |                           |
| TH01NE        | 01             |   |                                  |                           |             |                           |
| TH02NE        | 01             |   |                                  |                           |             |                           |
| TH03NE        | 01             |   |                                  |                           |             |                           |

Table Notes:

1. See Figure 3 for the location of the branch and section.

## **SUMMARY**

This report documents the results of the pavement evaluation conducted at Newton Municipal Airport-Earl Johnson Field. A visual inspection of the pavements in 2021 found that the overall condition of the pavement network is a PCI of 70. A 5-year pavement repair program, shown in Table 2, was generated for Newton Municipal Airport-Earl Johnson Field, which revealed that approximately \$4,074,000 needs to be expended on M&R. Newton Municipal Airport-Earl Johnson Field should utilize these study results to assist in planning for future maintenance needs as part of the airport CIP planning process.

## **APPENDIX A**

### **CAUSE OF DISTRESS TABLES**

Table A-1. Cause of pavement distress, asphalt-surfaced pavements.

| <b>Distress Type</b>      | <b>Probable Cause of Distress</b>  |
|---------------------------|--|
| 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.

| <b>Distress Type</b>        | <b>Probable Cause of Distress</b>   |
|-----------------------------|---|
| ASR                         | Chemical reaction of alkalis in the portland 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**



A01NE-01. Overview.



A01NE-01. ASR (Sample Unit No. 04).





A01NE-01. Joint Seal Damage (Sample Unit No. 17).



A01NE-01. Joint Spalling (Sample Unit No. 17).





A02NE-01. Overview.



A02NE-01. Block Cracking (Sample Unit No. 02).





A02NE-01. Weathering (Sample Unit No. 02).



A03NE-01. Overview.





A03NE-01. Joint Seal Damage (Sample Unit No. 15).



A03NE-01. Large Patching (Additional Sample Unit No. 16).





A03NE-02. Overview.



A03NE-02. Joint Seal Damage (Sample Unit No. 10).



A03NE-03. Overview.



A03NE-03. Joint Seal Damage (Sample Unit No. 10).





A03NE-04. Overview.



R14NE-01. Overview.





R14NE-01. L&T Cracking (Sample Unit No. 01).



R14NE-01. L&T Cracking (Sample Unit No. 08).





R14NE-01. Weathering (Sample Unit No. 01).



R14NE-02. Overview.





R14NE-02. L&T Cracking (Sample Unit No. 14) (1).



R14NE-02. L&T Cracking (Sample Unit No. 14) (2).





R14NE-02. Weathering (Sample Unit No. 14).



R14NE-03. Overview.





R14NE-03. L&T Cracking (Sample Unit No. 11).



R14NE-03. Weathering (Sample Unit No. 11).





T01NE-01. Overview.



T01NE-01. Alligator Cracking (Sample Unit No. 08).





T01NE-01. Patching (Sample Unit No. 08).



T02NE-01. Overview.





T02NE-01. LTD Cracking (Sample Unit No. 01).



T02NE-02. Overview.





T02NE-02. L&T Cracking (Sample Unit No. 01).



T02NE-02. Weathering (Sample Unit No. 01).





T03NE-01. Overview.



T03NE-01. L&T Cracking (Sample Unit No. 06).





T03NE-01. Weathering (Sample Unit No. 06).



T04NE-01. Overview.





T04NE-01. LTD Cracking (Sample Unit No. 01).



T05NE-01. Overview.





T05NE-01. L&T Cracking (Sample Unit No. 20) (1).



T05NE-01. L&T Cracking (Sample Unit No. 20) (2).





T05NE-01. Weathering (Sample Unit No. 20).



T06NE-01. Overview.





T06NE-01. L&T Cracking (Sample Unit No. 02).



T06NE-01. Weathering (Sample Unit No. 02).





T07NE-01. Overview.



T07NE-01. L&T Cracking (Sample Unit No. 02) (1).





T07NE-01. L&T Cracking (Sample Unit No. 02) (2).



T07NE-01. Weathering (Sample Unit No. 02).





T08NE-01. Overview.



T08NE-01. Corner Spalling (Sample Unit No. 01).



T08NE-02. Overview.



TH01NE-01. Overview.





TH01NE-01. ASR (Sample Unit No. 02).



TH01NE-01. Joint Seal Damage (Sample Unit No. 02).





TH01NE-01. LTD Cracking (Sample Unit No. 02).



TH02NE-01. Overview.



TH02NE-01. LTD Cracking (Sample Unit No. 01).



TH03NE-01. Overview.





TH03NE-01 Joint Spalling (Sample Unit No. 09).



**APPENDIX C**

**INSPECTION REPORT**



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 1

### Branch - Section ID: A01NE - 01

Branch Name: APRON 01

Use: APRON

LCD: 7/1/1989  
 Surface Type: PCC  
 Rank: P  
 Section Area (sf): 72,604.00  
 Length (ft): 300.00  
 Width (ft): 240.00  
 From: HANGER  
 To: TAXIWAYS 01, 02, 03, & 04

PCI Family: IowaPCCAPSE\_CommEnhanced

Slabs: 492  
 Slab Length (ft): 11.80  
 Slab Width (ft): 12.50  
 Joint Length (ft): 11,416.67  
 Last Insp Date: 11/13/2021  
 PCI: 73  
 Total Samples: 22  
 Surveyed: 7

Section Comments:

Inspection Comments:

#### Sample Number: 02

Sample Type: R  
 Sample PCI: 72  
 Sample Area (Slabs): 20

Sample Comments:

|                |   |          |
|----------------|---|----------|
| 63 LINEAR CR   | M | 2 Slabs  |
| 65 JT SEAL DMG | H | 20 Slabs |
| 74 JOINT SPALL | M | 1 Slabs  |

#### Sample Number: 04

Sample Type: R  
 Sample PCI: 62  
 Sample Area (Slabs): 20

Sample Comments:

|                 |   |          |
|-----------------|---|----------|
| 65 JT SEAL DMG  | H | 20 Slabs |
| 75 CORNER SPALL | M | 2 Slabs  |
| 76 ASR          | L | 2 Slabs  |
| 76 ASR          | M | 2 Slabs  |

#### Sample Number: 07

Sample Type: R  
 Sample PCI: 62  
 Sample Area (Slabs): 20

Sample Comments:

|                 |   |          |
|-----------------|---|----------|
| 62 CORNER BREAK | M | 1 Slabs  |
| 63 LINEAR CR    | L | 1 Slabs  |
| 63 LINEAR CR    | M | 3 Slabs  |
| 65 JT SEAL DMG  | H | 20 Slabs |

#### Sample Number: 11

Sample Type: R  
 Sample PCI: 75  
 Sample Area (Slabs): 20

Sample Comments:

|                 |   |          |
|-----------------|---|----------|
| 65 JT SEAL DMG  | H | 20 Slabs |
| 71 FAULTING     | L | 4 Slabs  |
| 75 CORNER SPALL | M | 1 Slabs  |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 2

### Sample Number: 14

Sample Type: R

Sample Comments:

Sample PCI: 74

Sample Area (Slabs): 20

|                |   |          |
|----------------|---|----------|
| 65 JT SEAL DMG | H | 20 Slabs |
| 67 LARGE PATCH | L | 1 Slabs  |
| 71 FAULTING    | L | 4 Slabs  |
| 74 JOINT SPALL | L | 1 Slabs  |

### Sample Number: 17

Sample Type: R

Sample Comments:

Sample PCI: 81

Sample Area (Slabs): 25

|                 |   |          |
|-----------------|---|----------|
| 65 JT SEAL DMG  | H | 25 Slabs |
| 74 JOINT SPALL  | M | 2 Slabs  |
| 75 CORNER SPALL | L | 1 Slabs  |

### Sample Number: 21

Sample Type: R

Sample Comments:

Sample PCI: 81

Sample Area (Slabs): 27

|                |   |          |
|----------------|---|----------|
| 63 LINEAR CR   | L | 1 Slabs  |
| 65 JT SEAL DMG | H | 27 Slabs |
| 74 JOINT SPALL | M | 1 Slabs  |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 3

### Branch - Section ID: A02NE - 01

Branch Name: APRON 02

Use: APRON

LCD: 7/1/1988

PCI Family: IowaACAPSouthern

Surface Type: AC

Rank: P

Section Area (sf): 17,641.00

Length (ft): 230.00

Width (ft): 82.00

From: APRON 01 SECT 01

To: TAXIWAY 03 SECT 01

Slabs:

Section Comments:

Slab Length (ft):

Slab Width (ft):

Joint Length (ft):

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 42

Total Samples: 4

Surveyed: 3

#### Sample Number: 01

Sample Type: R

Sample Comments:

Sample PCI: 42

Sample Area (SF): 4,600

43 BLOCK CR

M

4,600 SF

57 WEATHERING

M

4,600 SF

#### Sample Number: 02

Sample Type: R

Sample Comments:

Sample PCI: 42

Sample Area (SF): 4,830

43 BLOCK CR

M

4,830 SF

57 WEATHERING

M

4,830 SF

#### Sample Number: 04

Sample Type: R

Sample Comments:

Sample PCI: 42

Sample Area (SF): 4,830

43 BLOCK CR

M

4,830 SF

57 WEATHERING

M

4,830 SF



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 4

### Branch - Section ID: A03NE - 01

Branch Name: APRON 03

Use: APRON

LCD: 6/1/2003

PCI Family: IowaPCCAPSE\_CommEnhanced

Surface Type: PCC

Rank: P

Section Area (sf): 77,760.00

Length (ft): 360.00

Width (ft): 216.00

From: T08NE-01

To: ..

Slabs: 432

Section Comments:

Slab Length (ft): 15.00

Slab Width (ft): 12.00

Joint Length (ft): 11,088.00

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 91

Total Samples: 18

Surveyed: 8

#### Sample Number: 02

Sample Type: R

Sample Comments:

Sample PCI: 90

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

74 JOINT SPALL

M

1 Slabs

#### Sample Number: 06

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

#### Sample Number: 09

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

#### Sample Number: 11

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

#### Sample Number: 13

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

#### Sample Number: 15

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 5

### Sample Number: 16

Sample Type: A

Sample Comments:

Sample PCI: 73

Sample Area (Slabs): 24

|                |   |          |
|----------------|---|----------|
| 65 JT SEAL DMG | M | 24 Slabs |
| 67 LARGE PATCH | H | 1 Slabs  |
| 67 LARGE PATCH | L | 1 Slabs  |
| 74 JOINT SPALL | H | 1 Slabs  |

### Sample Number: 17

Sample Type: R

Sample Comments:

Sample PCI: 91

Sample Area (Slabs): 24

|                 |   |          |
|-----------------|---|----------|
| 65 JT SEAL DMG  | M | 24 Slabs |
| 75 CORNER SPALL | L | 1 Slabs  |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 6

### Branch - Section ID: A03NE - 02

Branch Name: APRON 03

Use: APRON

LCD: 6/3/2010  
 Surface Type: PCC  
 Rank: P  
 Section Area (sf): 42,840.00  
 Length (ft): 210.00  
 Width (ft): 204.00  
 From: .  
 To: .

PCI Family: IowaPCCAPSE\_CommEnhanced

Slabs: 238  
 Slab Length (ft): 15.00  
 Slab Width (ft): 12.00  
 Joint Length (ft): 6,012.00  
 Last Insp Date: 11/13/2021  
 PCI: 91  
 Total Samples: 12  
 Surveyed: 6

Section Comments:

Inspection Comments:

#### Sample Number: 01

Sample Type: R  
 Sample PCI: 93  
 Sample Area (Slabs): 14  
 65 JT SEAL DMG

Sample Comments:

M 14 Slabs

#### Sample Number: 04

Sample Type: R  
 Sample PCI: 93  
 Sample Area (Slabs): 24  
 65 JT SEAL DMG

Sample Comments:

M 24 Slabs

#### Sample Number: 05

Sample Type: R  
 Sample PCI: 93  
 Sample Area (Slabs): 21  
 65 JT SEAL DMG

Sample Comments:

M 21 Slabs

#### Sample Number: 06

Sample Type: R  
 Sample PCI: 89  
 Sample Area (Slabs): 24  
 65 JT SEAL DMG  
 71 FAULTING

Sample Comments:

M 24 Slabs  
 L 1 Slabs

#### Sample Number: 09

Sample Type: R  
 Sample PCI: 93  
 Sample Area (Slabs): 21  
 65 JT SEAL DMG

Sample Comments:

M 21 Slabs



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 7

### Sample Number: 10

Sample Type: R

Sample Comments:

Sample PCI: 88

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

71 FAULTING

L

1 Slabs

73 SHRINKAGE CR

N

1 Slabs

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 8

### Branch - Section ID: A03NE - 03

Branch Name: APRON 03

Use: APRON

LCD: 6/3/2013

PCI Family: IowaPCCAPSE\_CommEnhanced

Surface Type: PCC

Rank: P

Section Area (sf): 40,800.00

Length (ft): 204.00

Width (ft): 200.00

From: SEE MAP

To: SEE MAP

Slabs: 272

Section Comments:

Slab Length (ft): 12.00

Slab Width (ft): 12.50

Joint Length (ft): 6,260.00

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 93

Total Samples: 13

Surveyed: 6

#### Sample Number: 04

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 25

65 JT SEAL DMG

M

25 Slabs

#### Sample Number: 05

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

#### Sample Number: 06

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 20

65 JT SEAL DMG

M

20 Slabs

#### Sample Number: 08

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 24

65 JT SEAL DMG

M

24 Slabs

#### Sample Number: 10

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 20

65 JT SEAL DMG

M

20 Slabs

#### Sample Number: 12

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 20

65 JT SEAL DMG

M

20 Slabs

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 9

### Branch - Section ID: A03NE - 04

Branch Name: APRON 03

Use: APRON

LCD: 5/3/2019

PCI Family: IowaPCCAPSE\_CommEnhanced

Surface Type: PCC

Rank: P

Section Area (sf): 34,110.00

Length (ft): 162.00

Width (ft): 204.00

From: A03NE-03

To: END

Slabs: 227

Section Comments:

Slab Length (ft): 12.50

Slab Width (ft): 12.00

Joint Length (ft): 5,194.19

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 100

Total Samples: 11

Surveyed: 6

#### Sample Number: 03

Sample Type: R

Sample Comments:

Sample PCI: 100

Sample Area (Slabs): 20

NO DISTRESS

#### Sample Number: 04

Sample Type: R

Sample Comments:

Sample PCI: 100

Sample Area (Slabs): 20

NO DISTRESS

#### Sample Number: 05

Sample Type: R

Sample Comments:

Sample PCI: 100

Sample Area (Slabs): 20

NO DISTRESS

#### Sample Number: 07

Sample Type: R

Sample Comments:

Sample PCI: 100

Sample Area (Slabs): 24

NO DISTRESS

#### Sample Number: 09

Sample Type: R

Sample Comments:

Sample PCI: 100

Sample Area (Slabs): 20

NO DISTRESS

#### Sample Number: 10

Sample Type: R

Sample Comments:

Sample PCI: 100

Sample Area (Slabs): 20

NO DISTRESS



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 10

### Branch - Section ID: R14NE - 01

Branch Name: RUNWAY 14/32

Use: RUNWAY

LCD: 5/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 244,296.00  
 Length (ft): 2,422.00  
 Width (ft): 100.00  
 From: RUNWAY END 14  
 To: RUNWAY SECTION 02

PCI Family: IowaAACRWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 62  
 Total Samples: 49  
 Surveyed: 7

Inspection Comments:

#### Sample Number: 001

Sample Type: R  
 Sample PCI: 64  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | L | 66 Ft    |              |
| 48 L & T CR   | M | 300 Ft   | FS W SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |

#### Sample Number: 008

Sample Type: R  
 Sample PCI: 62  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | H | 15 Ft    | 1FT TRANS    |
| 48 L & T CR   | L | 73 Ft    | LU           |
| 48 L & T CR   | M | 258 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |

#### Sample Number: 014

Sample Type: R  
 Sample PCI: 65  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 46 Ft    | LU   |
| 48 L & T CR   | M | 297 Ft   | FS W |
| 57 WEATHERING | L | 5,000 SF |      |

#### Sample Number: 021

Sample Type: R  
 Sample PCI: 54  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | H | 4 Ft     | 1FT TRANS    |
| 48 L & T CR   | L | 21 Ft    | LU           |
| 48 L & T CR   | M | 486 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 11

### Sample Number: 034

Sample Type: R

Sample Comments:

Sample PCI: 66

Sample Area (SF): 5,000

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | H | 25 Ft    | 1FT TRANS    |
| 48 L & T CR   | L | 11 Ft    | LU           |
| 48 L & T CR   | M | 223 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |

### Sample Number: 043

Sample Type: R

Sample Comments:

Sample PCI: 59

Sample Area (SF): 5,000

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | M | 480 Ft   | W FS |
| 57 WEATHERING | L | 5,000 SF |      |

### Sample Number: 046

Sample Type: R

Sample Comments:

Sample PCI: 66

Sample Area (SF): 5,000

|               |   |          |          |
|---------------|---|----------|----------|
| 48 L & T CR   | H | 50 Ft    | 1FT TRAN |
| 48 L & T CR   | L | 49 Ft    | U        |
| 48 L & T CR   | M | 172 Ft   | FS W     |
| 57 WEATHERING | L | 5,000 SF |          |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 12

### Branch - Section ID: R14NE - 02

Branch Name: RUNWAY 14/32

Use: RUNWAY

LCD: 5/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 155,807.00  
 Length (ft): 1,575.00  
 Width (ft): 100.00  
 From: RUNWAY SECT 01  
 To: RUNWAY SECTION 03

PCI Family: IowaAACRWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 66  
 Total Samples: 32  
 Surveyed: 7

Inspection Comments:

#### Sample Number: 002

Sample Type: R  
 Sample PCI: 70  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |             |
|---------------|---|----------|-------------|
| 48 L & T CR   | L | 51 Ft    | LU          |
| 48 L & T CR   | M | 192 Ft   | W FS SEC CK |
| 57 WEATHERING | L | 5,000 SF |             |

#### Sample Number: 005

Sample Type: R  
 Sample PCI: 62  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | L | 86 Ft    | LU           |
| 48 L & T CR   | M | 316 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |

#### Sample Number: 014

Sample Type: R  
 Sample PCI: 68  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | H | 30 Ft    | 1 FT TRANS   |
| 48 L & T CR   | L | 30 Ft    | LU           |
| 48 L & T CR   | M | 181 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |

#### Sample Number: 017

Sample Type: R  
 Sample PCI: 61  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | H | 25 Ft    | 1 FT TRANS   |
| 48 L & T CR   | L | 65 Ft    | LU           |
| 48 L & T CR   | M | 300 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,000 SF |              |



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 13

### Sample Number: 023

Sample Type: R

Sample Comments:

Sample PCI: 69

Sample Area (SF): 5,000

48 L & T CR

L

362 Ft

LU

48 L & T CR

M

175 Ft

W FS SEC CRK

57 WEATHERING

L

5,000 SF

### Sample Number: 027

Sample Type: R

Sample Comments:

Sample PCI: 65

Sample Area (SF): 5,000

48 L & T CR

L

26 Ft

LU

48 L & T CR

M

300 Ft

W FS SEC CRK

57 WEATHERING

L

5,000 SF

### Sample Number: 030

Sample Type: R

Sample Comments:

Sample PCI: 68

Sample Area (SF): 5,000

48 L & T CR

L

10 Ft

LU

48 L & T CR

M

272 Ft

W FS SEC CRK

57 WEATHERING

L

5,000 SF

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 14

### Branch - Section ID: R14NE - 03

Branch Name: RUNWAY 14/32

Use: RUNWAY

LCD: 4/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 165,142.00  
 Length (ft): 1,650.00  
 Width (ft): 100.00  
 From: RUNWAY SECTION 02  
 To: RUNWAY END 32

PCI Family: IowaAACRWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 69  
 Total Samples: 33  
 Surveyed: 7

Inspection Comments:

#### Sample Number: 04

Sample Type: R  
 Sample PCI: 73  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 31 Ft    | LU   |
| 48 L & T CR   | M | 152 Ft   | W FS |
| 57 WEATHERING | L | 5,000 SF |      |

#### Sample Number: 11

Sample Type: R  
 Sample PCI: 64  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |            |
|---------------|---|----------|------------|
| 48 L & T CR   | L | 50 Ft    | LU         |
| 48 L & T CR   | M | 300 Ft   | FS W       |
| 57 WEATHERING | L | 4,500 SF | LESS PAINT |

#### Sample Number: 14

Sample Type: R  
 Sample PCI: 66  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 63 Ft    | LU   |
| 48 L & T CR   | M | 260 Ft   | FS W |
| 57 WEATHERING | L | 5,000 SF |      |

#### Sample Number: 20

Sample Type: R  
 Sample PCI: 74  
 Sample Area (SF): 5,000

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 58 Ft    | LU   |
| 48 L & T CR   | M | 109 Ft   | FS W |
| 57 WEATHERING | L | 5,000 SF |      |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 15

### Sample Number: 21

|                         |   |                  |            |
|-------------------------|---|------------------|------------|
| Sample Type: R          |   | Sample Comments: |            |
| Sample PCI: 63          |   |                  |            |
| Sample Area (SF): 5,000 |   |                  |            |
| 48 L & T CR             | L | 36 Ft            | LU         |
| 48 L & T CR             | M | 350 Ft           | W FS       |
| 57 WEATHERING           | L | 4,550 SF         | LESS PAINT |

### Sample Number: 27

|                         |   |                  |            |
|-------------------------|---|------------------|------------|
| Sample Type: R          |   | Sample Comments: |            |
| Sample PCI: 70          |   |                  |            |
| Sample Area (SF): 5,000 |   |                  |            |
| 48 L & T CR             | L | 52 Ft            | LU         |
| 48 L & T CR             | M | 180 Ft           | FS W       |
| 57 WEATHERING           | L | 4,550 SF         | LESS PAINT |

### Sample Number: 30

|                         |   |                  |              |
|-------------------------|---|------------------|--------------|
| Sample Type: R          |   | Sample Comments: |              |
| Sample PCI: 69          |   |                  |              |
| Sample Area (SF): 5,000 |   |                  |              |
| 48 L & T CR             | H | 30 Ft            | 1FT TRANS    |
| 48 L & T CR             | L | 25 Ft            | LU           |
| 48 L & T CR             | M | 165 Ft           | W FS SEC CRK |
| 57 WEATHERING           | L | 4,100 SF         |              |



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 16

### Branch - Section ID: T01NE - 01

Branch Name: TAXIWAY 01

Use: TAXIWAY

LCD: 7/1/1988  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 50,873.00  
 Length (ft): 1,000.00  
 Width (ft): 50.00  
 From: RUNWAY END 14  
 To: APRON 01 SECT 01

PCI Family: IowaAACTWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 15  
 Total Samples: 10  
 Surveyed: 5

Inspection Comments:

#### Sample Number: 002

Sample Type: R  
 Sample PCI: 10  
 Sample Area (SF): 5,000

Sample Comments:

|                 |   |          |            |
|-----------------|---|----------|------------|
| 41 ALLIGATOR CR | M | 500 SF   |            |
| 48 L & T CR     | M | 438 Ft   | w          |
| 50 PATCHING     | H | 400 SF   | cold patch |
| 52 RAVELING     | M | 2,300 SF |            |
| 57 WEATHERING   | M | 2,300 SF |            |

#### Sample Number: 003

Sample Type: R  
 Sample PCI: 28  
 Sample Area (SF): 5,000

Sample Comments:

|                 |   |          |            |
|-----------------|---|----------|------------|
| 41 ALLIGATOR CR | M | 75 SF    |            |
| 48 L & T CR     | M | 390 Ft   | w          |
| 50 PATCHING     | H | 100 SF   | cold patch |
| 52 RAVELING     | M | 2,450 SF |            |
| 57 WEATHERING   | M | 2,450 SF |            |

#### Sample Number: 005

Sample Type: R  
 Sample PCI: 22  
 Sample Area (SF): 5,000

Sample Comments:

|                 |   |          |            |
|-----------------|---|----------|------------|
| 41 ALLIGATOR CR | M | 250 SF   |            |
| 48 L & T CR     | M | 385 Ft   | w          |
| 50 PATCHING     | H | 200 SF   | cold patch |
| 52 RAVELING     | M | 2,400 SF |            |
| 57 WEATHERING   | M | 2,400 SF |            |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 17

### Sample Number: 006

Sample Type: R

Sample Comments:

Sample PCI: 11

Sample Area (SF): 5,000

|                 |   |          |            |
|-----------------|---|----------|------------|
| 41 ALLIGATOR CR | H | 5 SF     |            |
| 41 ALLIGATOR CR | M | 250 SF   |            |
| 48 L & T CR     | M | 485 Ft   | w          |
| 50 PATCHING     | H | 200 SF   | cold patch |
| 52 RAVELING     | M | 2,400 SF |            |
| 57 WEATHERING   | M | 2,400 SF |            |

### Sample Number: 008

Sample Type: R

Sample Comments:

Sample PCI: 3

Sample Area (SF): 5,000

|                 |   |          |   |
|-----------------|---|----------|---|
| 41 ALLIGATOR CR | H | 5 SF     |   |
| 41 ALLIGATOR CR | M | 315 SF   |   |
| 48 L & T CR     | M | 395 Ft   | w |
| 50 PATCHING     | H | 400 SF   |   |
| 52 RAVELING     | M | 2,300 SF |   |
| 57 WEATHERING   | M | 2,300 SF |   |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 18

### Branch - Section ID: T02NE - 01

Branch Name: TAXIWAY 02

Use: TAXIWAY

LCD: 7/1/1989

PCI Family: IowaPCCTWSE\_Enhanced

Surface Type: PCC

Rank: P

Section Area (sf): 2,799.00

Length (ft): 43.00

Width (ft): 44.00

From: APRON 01 SECT 01

To: TAXIWAY 02 SECT 02

Slabs: 26

Section Comments: avg slab size

Slab Length (ft): 10.40

Slab Width (ft): 10.50

Joint Length (ft): 407.00

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 75

Total Samples: 1

Surveyed: 1

### Sample Number: 001

Sample Type: R

Sample Comments:

Sample PCI: 75

Sample Area (Slabs): 26

63 LINEAR CR

L

1 Slabs

65 JT SEAL DMG

H

26 Slabs

71 FAULTING

L

4 Slabs

73 SHRINKAGE CR

N

1 Slabs

75 CORNER SPALL

L

1 Slabs



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 19

### Branch - Section ID: T02NE - 02

Branch Name: TAXIWAY 02

Use: TAXIWAY

LCD: 4/1/2010

PCI Family: IowaAACTWSE

Surface Type: AAC

Rank: P

Section Area (sf): 6,629.00

Length (ft): 131.00

Width (ft): 40.00

From: TAXIWAY 02 SECT 01

To: RUNWAY 14/32

Slabs:

Section Comments:

Slab Length (ft):

Slab Width (ft):

Joint Length (ft):

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 75

Total Samples: 1

Surveyed: 1

### Sample Number: 001

Sample Type: R

Sample Comments:

Sample PCI: 75

Sample Area (SF): 6,629

48 L & T CR

L

109 Ft

U

48 L & T CR

M

119 Ft

FS

57 WEATHERING

L

6,629 SF

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 20

### Branch - Section ID: T03NE - 01

Branch Name: TAXIWAY 03

Use: TAXIWAY

LCD: 4/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 57,618.00  
 Length (ft): 1,271.00  
 Width (ft): 35.00  
 From: APRONS 01 & 02  
 To: RUNWAY 14/32

PCI Family: IowaAACTWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 74  
 Total Samples: 11  
 Surveyed: 5

Inspection Comments:

#### Sample Number: 002

Sample Type: R  
 Sample PCI: 73  
 Sample Area (SF): 6,315

Sample Comments:

|               |   |          |           |
|---------------|---|----------|-----------|
| 48 L & T CR   | H | 20 Ft    | 1FT TRANS |
| 48 L & T CR   | L | 65 Ft    | LS        |
| 48 L & T CR   | L | 61 Ft    | LU        |
| 48 L & T CR   | M | 30 Ft    | W         |
| 57 WEATHERING | L | 6,315 SF |           |

#### Sample Number: 003

Sample Type: R  
 Sample PCI: 85  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |    |
|---------------|---|----------|----|
| 48 L & T CR   | L | 8 Ft     | LU |
| 48 L & T CR   | M | 35 Ft    | W  |
| 57 WEATHERING | L | 5,250 SF |    |

#### Sample Number: 005

Sample Type: R  
 Sample PCI: 72  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | L | 44 Ft    | LU           |
| 48 L & T CR   | L | 95 Ft    | LS           |
| 48 L & T CR   | M | 130 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,250 SF |              |

#### Sample Number: 006

Sample Type: R  
 Sample PCI: 70  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 272 Ft   | LU   |
| 48 L & T CR   | M | 172 Ft   | FS W |
| 57 WEATHERING | L | 5,250 SF |      |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 21

### Sample Number: 010

Sample Type: R

Sample Comments:

Sample PCI: 68

Sample Area (SF): 4,375

48 L & T CR

L

52 Ft

LU

48 L & T CR

M

185 Ft

W FS

57 WEATHERING

L

4,375 SF



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 22

### Branch - Section ID: T04NE - 01

Branch Name: TAXIWAY 04

Use: TAXIWAY

LCD: 7/1/1955

PCI Family: IowaPCCTWSE\_Enhanced

Surface Type: PCC

Rank: P

Section Area (sf): 4,324.00

Length (ft): 146.00

Width (ft): 30.00

From: APRON 01 SECT 01

To: TAXIWAY 01 SECT 01

Slabs: 18

Section Comments:

Slab Length (ft): 16.00

Slab Width (ft): 15.00

Joint Length (ft): 384.77

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 5

Total Samples: 1

Surveyed: 1

### Sample Number: 001

Sample Type: R

Sample Comments:

Sample PCI: 5

Sample Area (Slabs): 18

|                 |   |          |
|-----------------|---|----------|
| 62 CORNER BREAK | H | 2 Slabs  |
| 62 CORNER BREAK | M | 1 Slabs  |
| 63 LINEAR CR    | M | 6 Slabs  |
| 65 JT SEAL DMG  | H | 18 Slabs |
| 68 POPOUTS      | N | 18 Slabs |
| 70 SCALING      | H | 1 Slabs  |
| 72 SHAT. SLAB   | M | 5 Slabs  |
| 74 JOINT SPALL  | H | 2 Slabs  |
| 74 JOINT SPALL  | L | 1 Slabs  |
| 74 JOINT SPALL  | M | 4 Slabs  |
| 75 CORNER SPALL | L | 1 Slabs  |
| 75 CORNER SPALL | M | 2 Slabs  |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 23

### Branch - Section ID: T05NE - 01

Branch Name: TAXIWAY 05

Use: TAXIWAY

LCD: 4/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 126,127.00  
 Length (ft): 3,390.00  
 Width (ft): 35.00  
 From: TAXIWAY 03NE-01  
 To: TAXIWAY 06NE-01

PCI Family: IowaAACTWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 75  
 Total Samples: 25  
 Surveyed: 6

Inspection Comments:

#### Sample Number: 02

Sample Type: R  
 Sample PCI: 81  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |    |
|---------------|---|----------|----|
| 48 L & T CR   | L | 95 Ft    | LS |
| 48 L & T CR   | L | 20 Ft    | LU |
| 48 L & T CR   | M | 30 Ft    | FS |
| 57 WEATHERING | L | 5,250 SF |    |

#### Sample Number: 05

Sample Type: R  
 Sample PCI: 73  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |    |
|---------------|---|----------|----|
| 48 L & T CR   | L | 55 Ft    | LS |
| 48 L & T CR   | L | 20 Ft    | LU |
| 48 L & T CR   | M | 130 Ft   |    |
| 57 WEATHERING | L | 5,250 SF |    |

#### Sample Number: 10

Sample Type: R  
 Sample PCI: 81  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |    |
|---------------|---|----------|----|
| 48 L & T CR   | L | 135 Ft   | LS |
| 48 L & T CR   | M | 30 Ft    | FS |
| 57 WEATHERING | L | 5,250 SF |    |

#### Sample Number: 15

Sample Type: R  
 Sample PCI: 71  
 Sample Area (SF): 5,250

Sample Comments:

|               |   |          |            |
|---------------|---|----------|------------|
| 48 L & T CR   | H | 5 Ft     | 1FT TRANS  |
| 48 L & T CR   | L | 70 Ft    | LS         |
| 48 L & T CR   | L | 10 Ft    | U          |
| 48 L & T CR   | M | 80 Ft    | FS SEC CRK |
| 57 WEATHERING | L | 5,250 SF |            |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 24

### Sample Number: 18

Sample Type: R

Sample Comments:

Sample PCI: 71

Sample Area (SF): 5,250

|               |   |          |          |
|---------------|---|----------|----------|
| 48 L & T CR   | H | 20 Ft    | 1T TRANS |
| 48 L & T CR   | L | 66 Ft    | LS       |
| 48 L & T CR   | M | 85 Ft    | FS       |
| 57 WEATHERING | L | 5,250 SF |          |

### Sample Number: 20

Sample Type: R

Sample Comments:

Sample PCI: 74

Sample Area (SF): 5,250

|               |   |          |              |
|---------------|---|----------|--------------|
| 48 L & T CR   | H | 5 Ft     | 1FT TRANS    |
| 48 L & T CR   | L | 23 Ft    | LS           |
| 48 L & T CR   | M | 105 Ft   | W FS SEC CRK |
| 57 WEATHERING | L | 5,250 SF |              |



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 25

### Branch - Section ID: T06NE - 01

Branch Name: TAXIWAY 06

Use: TAXIWAY

LCD: 4/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 14,033.00  
 Length (ft): 340.00  
 Width (ft): 35.00  
 From: RUNWAY 14NE-02  
 To: TAXIWAY 05NE-01

PCI Family: IowaAACTWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 69  
 Total Samples: 3  
 Surveyed: 3

Inspection Comments:

#### Sample Number: 01

Sample Type: R  
 Sample PCI: 72  
 Sample Area (SF): 5,404

Sample Comments:

|               |   |          |             |
|---------------|---|----------|-------------|
| 48 L & T CR   | L | 7 Ft     | LU          |
| 48 L & T CR   | L | 26 Ft    | LS AT BREAK |
| 48 L & T CR   | M | 195 Ft   | FS          |
| 57 WEATHERING | L | 5,404 SF |             |

#### Sample Number: 02

Sample Type: R  
 Sample PCI: 71  
 Sample Area (SF): 4,374

Sample Comments:

|               |   |          |    |
|---------------|---|----------|----|
| 48 L & T CR   | L | 50 Ft    | LU |
| 48 L & T CR   | L | 78 Ft    | LS |
| 48 L & T CR   | M | 130 Ft   | FS |
| 57 WEATHERING | L | 4,374 SF |    |

#### Sample Number: 03

Sample Type: R  
 Sample PCI: 62  
 Sample Area (SF): 4,255

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 55 Ft    | LS   |
| 48 L & T CR   | L | 40 Ft    | LU   |
| 48 L & T CR   | M | 242 Ft   | FS W |
| 57 WEATHERING | L | 4,255 SF |      |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 26

### Branch - Section ID: T07NE - 01

Branch Name: TAXIWAY 07

Use: TAXIWAY

LCD: 4/1/2010  
 Surface Type: AAC  
 Rank: P  
 Section Area (sf): 13,745.00  
 Length (ft): 170.00  
 Width (ft): 80.00  
 From: RUNWAY 14NE-03  
 To: TAXIWAY 05NE-01

PCI Family: IowaAACTWSE

Slabs:  
 Slab Length (ft):  
 Slab Width (ft):  
 Joint Length (ft):

Section Comments:

Last Insp Date: 11/13/2021  
 PCI: 64  
 Total Samples: 3  
 Surveyed: 3

Inspection Comments:

#### Sample Number: 01

Sample Type: R  
 Sample PCI: 72  
 Sample Area (SF): 4,421

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 110 Ft   | LU   |
| 48 L & T CR   | M | 110 Ft   | W FS |
| 57 WEATHERING | L | 4,421 SF |      |

#### Sample Number: 02

Sample Type: R  
 Sample PCI: 53  
 Sample Area (SF): 4,620

Sample Comments:

|               |   |          |              |
|---------------|---|----------|--------------|
| 45 DEPRESSION | L | 15 SF    | AT CRK       |
| 48 L & T CR   | H | 40 Ft    | 1FT TRANS    |
| 48 L & T CR   | L | 75 Ft    | LU           |
| 48 L & T CR   | M | 240 Ft   | W FS SEC CRK |
| 52 RAVELING   | H | 2 SF     |              |
| 57 WEATHERING | L | 4,618 SF |              |

#### Sample Number: 03

Sample Type: R  
 Sample PCI: 68  
 Sample Area (SF): 4,704

Sample Comments:

|               |   |          |      |
|---------------|---|----------|------|
| 48 L & T CR   | L | 15 Ft    | LU   |
| 48 L & T CR   | M | 245 Ft   | W FS |
| 57 WEATHERING | L | 4,704 SF |      |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 27

### Branch - Section ID: T08NE - 01

Branch Name: TAXIWAY 08

Use: TAXIWAY

LCD: 6/1/2003

PCI Family: IowaPCCTWSE\_Enhanced

Surface Type: PCC

Rank: P

Section Area (sf): 2,465.00

Length (ft): 61.00

Width (ft): 40.00

From: T03NE-01

To: A03NE-01

Slabs: 16

Section Comments:

Slab Length (ft): 15.00

Slab Width (ft): 10.00

Joint Length (ft): 308.80

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 88

Total Samples: 1

Surveyed: 1

### Sample Number: 01

Sample Type: R

Sample Comments:

Sample PCI: 88

Sample Area (Slabs): 16

65 JT SEAL DMG

M

16 Slabs

75 CORNER SPALL

M

1 Slabs

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 28

### Branch - Section ID: T08NE - 02

Branch Name: TAXIWAY 08

Use: TAXIWAY

LCD: 4/3/2010

PCI Family: IowaPCCTWSE\_Enhanced

Surface Type: PCC

Rank: P

Section Area (sf): 6,461.00

Length (ft): 58.00

Width (ft): 40.00

From: APRON

To: T08-01

Slabs: 65

Section Comments: avg slab size

Slab Length (ft): 10.50

Slab Width (ft): 9.50

Joint Length (ft): 1,022.52

Last Insp Date: 11/13/2021

Inspection Comments:

PCI: 93

Total Samples: 2

Surveyed: 2

#### Sample Number: 01

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 31

65 JT SEAL DMG

M

31 Slabs

#### Sample Number: 02

Sample Type: R

Sample Comments:

Sample PCI: 93

Sample Area (Slabs): 34

65 JT SEAL DMG

M

34 Slabs



# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 29

### Branch - Section ID: TH01NE - 01

Branch Name: T-HANGAR 01

Use: T-HANGAR

LCD: 1/1/1970  
 Surface Type: PCC  
 Rank: P  
 Section Area (sf): 13,225.00  
 Length (ft): 330.00  
 Width (ft): 40.00  
 From: SEE MAP  
 To: SEE MAP  
 Slabs: 68  
 Slab Length (ft): 19.40  
 Slab Width (ft): 10.00  
 Joint Length (ft): 1,633.50  
 Last Insp Date: 11/13/2021  
 PCI: 56  
 Total Samples: 3  
 Surveyed: 3

PCI Family: IowaPCCTH\_SE

Section Comments: avg slab length

Inspection Comments:

#### Sample Number: 01

Sample Type: R  
 Sample PCI: 81  
 Sample Area (Slabs): 20

Sample Comments:

|                 |   |          |
|-----------------|---|----------|
| 63 LINEAR CR    | L | 2 Slabs  |
| 65 JT SEAL DMG  | M | 20 Slabs |
| 73 SHRINKAGE CR | N | 1 Slabs  |
| 75 CORNER SPALL | M | 1 Slabs  |

#### Sample Number: 02

Sample Type: R  
 Sample PCI: 51  
 Sample Area (Slabs): 20

Sample Comments:

|                |   |          |
|----------------|---|----------|
| 63 LINEAR CR   | L | 1 Slabs  |
| 63 LINEAR CR   | M | 3 Slabs  |
| 65 JT SEAL DMG | M | 20 Slabs |
| 74 JOINT SPALL | M | 2 Slabs  |
| 76 ASR         | L | 1 Slabs  |
| 76 ASR         | M | 1 Slabs  |

#### Sample Number: 03

Sample Type: R  
 Sample PCI: 42  
 Sample Area (Slabs): 28

Sample Comments:

|                |   |          |
|----------------|---|----------|
| 63 LINEAR CR   | M | 2 Slabs  |
| 63 LINEAR CR   | M | 4 Slabs  |
| 65 JT SEAL DMG | H | 28 Slabs |
| 74 JOINT SPALL | H | 1 Slabs  |
| 74 JOINT SPALL | M | 2 Slabs  |
| 74 JOINT SPALL | M | 1 Slabs  |
| 76 ASR         | L | 2 Slabs  |
| 76 ASR         | M | 2 Slabs  |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 30

### Branch - Section ID: TH02NE - 01

Branch Name: T-HANGAR 02

Use: T-HANGAR

LCD: 7/3/2011  
 Surface Type: PCC  
 Rank: P  
 Section Area (sf): 18,201.00  
 Length (ft): 700.00  
 Width (ft): 25.00  
 From: SEE MAP  
 To: SEE MAP  
 Slabs: 117  
 Slab Length (ft): 12.40  
 Slab Width (ft): 12.50  
 Joint Length (ft): 2,169.86  
 Last Insp Date: 11/13/2021  
 PCI: 80  
 Total Samples: 6  
 Surveyed: 4

PCI Family: IowaPCCTH\_SE

Section Comments:

Inspection Comments:

#### Sample Number: 01

Sample Type: R  
 Sample PCI: 65  
 Sample Area (Slabs): 18

Sample Comments:

|                |   |          |
|----------------|---|----------|
| 63 LINEAR CR   | L | 1 Slabs  |
| 63 LINEAR CR   | M | 2 Slabs  |
| 65 JT SEAL DMG | M | 18 Slabs |
| 71 FAULTING    | L | 1 Slabs  |

#### Sample Number: 04

Sample Type: R  
 Sample PCI: 70  
 Sample Area (Slabs): 18

Sample Comments:

|                 |   |         |
|-----------------|---|---------|
| 63 LINEAR CR    | L | 1 Slabs |
| 63 LINEAR CR    | M | 2 Slabs |
| 66 SMALL PATCH  | M | 1 Slabs |
| 73 SHRINKAGE CR | N | 1 Slabs |

#### Sample Number: 05

Sample Type: R  
 Sample PCI: 87  
 Sample Area (Slabs): 22

Sample Comments:

|                |   |          |
|----------------|---|----------|
| 65 JT SEAL DMG | M | 22 Slabs |
| 71 FAULTING    | L | 2 Slabs  |

#### Sample Number: 06

Sample Type: R  
 Sample PCI: 92  
 Sample Area (Slabs): 24

Sample Comments:

|                |   |          |
|----------------|---|----------|
| 65 JT SEAL DMG | M | 24 Slabs |
| 66 SMALL PATCH | L | 1 Slabs  |

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 31

### Branch - Section ID: TH03NE - 01

Branch Name: T-HANGAR 03

Use: T-HANGAR

LCD: 5/3/2005  
 Surface Type: PCC  
 Rank: P  
 Section Area (sf): 22,244.00  
 Length (ft): 875.00  
 Width (ft): 25.00  
 From: SEE MAP  
 To: SEE MAP  
 Slabs: 212  
 Slab Length (ft): 10.00  
 Slab Width (ft): 10.50  
 Joint Length (ft): 3,427.69  
 Last Insp Date: 11/13/2021  
 PCI: 95  
 Total Samples: 11  
 Surveyed: 6

PCI Family: IowaPCCTH\_SE

Section Comments:

Inspection Comments:

#### Sample Number: 02

Sample Type: R  
 Sample PCI: 98  
 Sample Area (Slabs): 21  
 65 JT SEAL DMG

Sample Comments:

L 21 Slabs

#### Sample Number: 04

Sample Type: R  
 Sample PCI: 98  
 Sample Area (Slabs): 21  
 65 JT SEAL DMG

Sample Comments:

L 21 Slabs

#### Sample Number: 06

Sample Type: R  
 Sample PCI: 96  
 Sample Area (Slabs): 18  
 65 JT SEAL DMG  
 74 JOINT SPALL

Sample Comments:

L 18 Slabs  
 L 1 Slabs

#### Sample Number: 08

Sample Type: R  
 Sample PCI: 88  
 Sample Area (Slabs): 19  
 63 LINEAR CR  
 65 JT SEAL DMG  
 71 FAULTING

Sample Comments:

L 1 Slabs  
 L 19 Slabs  
 L 1 Slabs

#### Sample Number: 09

Sample Type: R  
 Sample PCI: 90  
 Sample Area (Slabs): 20  
 65 JT SEAL DMG  
 71 FAULTING  
 74 JOINT SPALL

Sample Comments:

L 20 Slabs  
 L 1 Slabs  
 M 1 Slabs

# RE-INSPECTION REPORT

## NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

Pavement Database: IA 2021

Generate Date: 4/27/2022

Network ID: TNU

Page 32

### Sample Number: 11

Sample Type: R

Sample Comments:

Sample PCI: 97

Sample Area (Slabs): 22

65 JT SEAL DMG

L

22 Slabs

73 SHRINKAGE CR

N

1 Slabs



## **APPENDIX D**

### **WORK HISTORY REPORT**

# Work History

Pavement Database: IA 2021

## Network: NEWTON MUNICIPAL AIRPORT - EARL JOHNSON FIELD

### Branch - Section ID:           A01NE - 01

LCD: 7/1/1989  
 Use: APRON  
 Rank: P  
 Surface: PCC

Length (ft):                   300.00  
 Width (ft):                   240.00  
 True Area (sf):               72,604.00

| Work Date  | Work Code | Work Description             | Cost   | Thickness (in) | Major MR | Comments       |
|------------|-----------|------------------------------|--------|----------------|----------|----------------|
| 06-01-2016 | PA-PP     | Patching - PCC Partial Depth | \$0.00 | 0.00           | False    | FIELD ESTIMATE |
| 07-01-1989 | NC-PC     | New Construction - PCC       | \$0.00 | 0.00           | True     | -              |

### Branch - Section ID:           A02NE - 01

LCD: 7/1/1988  
 Use: APRON  
 Rank: P  
 Surface: AC

Length (ft):                   230.00  
 Width (ft):                   82.00  
 True Area (sf):               17,641.00

| Work Date  | Work Code | Work Description      | Cost   | Thickness (in) | Major MR | Comments |
|------------|-----------|-----------------------|--------|----------------|----------|----------|
| 07-01-1988 | NC-AC     | New Construction - AC | \$0.00 | 0.00           | True     | -        |

### Branch - Section ID:           A03NE - 01

LCD: 6/1/2003  
 Use: APRON  
 Rank: P  
 Surface: PCC

Length (ft):                   360.00  
 Width (ft):                   216.00  
 True Area (sf):               77,760.00

| Work Date  | Work Code | Work Description           | Cost   | Thickness (in) | Major MR | Comments |
|------------|-----------|----------------------------|--------|----------------|----------|----------|
| 06-01-2003 | NU-IN     | New Construction - Initial | \$0.00 | 0.00           | True     | -        |

### Branch - Section ID:           A03NE - 02

LCD: 6/3/2010  
 Use: APRON  
 Rank: P  
 Surface: PCC

Length (ft):                   210.00  
 Width (ft):                   204.00  
 True Area (sf):               42,840.00

| Work Date  | Work Code | Work Description           | Cost   | Thickness (in) | Major MR | Comments                  |
|------------|-----------|----------------------------|--------|----------------|----------|---------------------------|
| 06-03-2010 | NU-IN     | New Construction - Initial | \$0.00 | 0.00           | True     | State Funding - \$277,854 |

### Branch - Section ID:           A03NE - 03

LCD: 6/3/2013  
 Use: APRON  
 Rank: P  
 Surface: PCC

Length (ft):                   204.00  
 Width (ft):                   200.00  
 True Area (sf):               40,800.00

| Work Date  | Work Code | Work Description       | Cost   | Thickness (in) | Major MR | Comments        |
|------------|-----------|------------------------|--------|----------------|----------|-----------------|
| 06-03-2013 | NC-PC     | New Construction - PCC | \$0.00 | 8.00           | True     | 8" P505 PCC     |
| 06-02-2013 | SB-AG     | Subbase - Aggregate    | \$0.00 | 6.00           | False    | 6" P154 SUBBASE |
| 06-01-2013 | SG-CO     | Subgrade - Compacted   | \$0.00 | 12.00          | False    | -               |

# Work History

## Pavement Database: IA 2021

**Branch - Section ID: A03NE - 04**

LCD: 5/3/2019  
 Use: APRON  
 Rank: P  
 Surface: PCC

Length (ft): 162.50  
 Width (ft): 204.00  
 True Area (sf): 34,110.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments  |
|------------|-----------|-------------------------|--------|----------------|----------|---|
| 05-03-2019 | NC-PC     | New Construction - PCC  | \$8.00 | 9.00           | True     | 9" PCC pavement, P-501                          |
| 05-02-2019 | BA-AG     | Base Course - Aggregate | \$0.00 | 8.00           | False    | 8" Crushed Aggregate Base (P-209)               |
| 05-01-2019 | SG-ST     | Subgrade - Stabilized   | \$0.00 | 12.00          | False    | 12" cement treated subgrade preparation (P-156) |

**Branch - Section ID: R14NE - 01**

LCD: 5/1/2010  
 Use: RUNWAY  
 Rank: P  
 Surface: AAC

Length (ft): 2,422.00  
 Width (ft): 100.00  
 True Area (sf): 244,296.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments                                    |
|------------|-----------|-------------------------|--------|----------------|----------|---|
| 11-12-2014 | CS-AC     | Crack Sealing - AC      | \$0.00 | 0.00           | False    | CRACK SEAL                                  |
| 05-01-2010 | OL-AC     | Overlay - AC            | \$0.00 | 3.00           | True     | 3" P401 AC OVERLAY, 2007 CORE: 10.5" avg AC |
| 06-01-1982 | OL-AC     | Overlay - AC            | \$0.00 | 2.00           | True     | 2" AC OVERLAY                               |
| 06-01-1966 | OL-AC     | Overlay - AC            | \$0.00 | 4.00           | True     | 25' WIDENING: 5"-7" P154, 6" P209, 2"-3" AC |
| 06-02-1958 | NC-AC     | New Construction - AC   | \$0.00 | 2.00           | True     | 2" P401 AC (ASSUMED MAT. TYPE)              |
| 06-01-1958 | BA-AG     | Base Course - Aggregate | \$0.00 | 6.00           | False    | 6" P209 CABG                                |

**Branch - Section ID: R14NE - 02**

LCD: 5/1/2010  
 Use: RUNWAY  
 Rank: P  
 Surface: AAC

Length (ft): 1,575.00  
 Width (ft): 100.00  
 True Area (sf): 155,807.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments                                 |
|------------|-----------|-------------------------|--------|----------------|----------|--|
| 11-12-2014 | CS-AC     | Crack Sealing - AC      | \$0.00 | 0.00           | False    | -  |
| 05-01-2010 | OL-AC     | Overlay - AC            | \$0.00 | 3.00           | True     | 3" P401 AC OVERLAY; 2007 CORE: 11.5" AVG |
| 06-01-1982 | OL-AC     | Overlay - AC            | \$0.00 | 4.00           | True     | 4" P401 AC OVERLAY                       |
| 06-04-1966 | NC-AC     | New Construction - AC   | \$0.00 | 6.00           | True     | 6" P401 AC                               |
| 06-02-1966 | BA-AG     | Base Course - Aggregate | \$0.00 | 6.00           | False    | 6" P209 CABG                             |
| 06-01-1966 | SB-AG     | Subbase - Aggregate     | \$0.00 | 5.00           | False    | 5" P154                                  |

**Branch - Section ID: R14NE - 03**

LCD: 4/1/2010  
 Use: RUNWAY  
 Rank: P  
 Surface: AAC

Length (ft): 1,650.00  
 Width (ft): 100.00  
 True Area (sf): 165,142.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments                                  |
|------------|-----------|-------------------------|--------|----------------|----------|---|
| 11-12-2014 | CS-AC     | Crack Sealing - AC      | \$0.00 | 0.00           | False    | -   |
| 04-01-2010 | OL-AS     | Overlay - AC Structural | \$0.00 | 5.00           | True     | 5" AC OVERLAY; 2007 CORE 8" AVG AC/ 10" A |
| 06-02-1988 | NC-AC     | New Construction - AC   | \$0.00 | 8.00           | True     | 8" P-401 AC SURFACE                       |
| 06-01-1988 | BA-AG     | Base Course - Aggregate | \$0.00 | 10.00          | False    | 10" P-209 CABG                            |

# Work History

Pavement Database: IA 2021

**Branch - Section ID: T01NE - 01**

LCD: 7/1/1988  
 Use: TAXIWAY  
 Rank: P  
 Surface: AAC

Length (ft): 1,000.00  
 Width (ft): 50.00  
 True Area (sf): 50,873.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments            |
|------------|-----------|-------------------------|--------|----------------|----------|---------------------|
| 07-01-1988 | OL-AC     | Overlay - AC            | \$0.00 | 19.00          | True     | 19" P401 AC OVERLAY |
| 06-03-1967 | NC-AC     | New Construction - AC   | \$0.00 | 3.00           | True     | 3" P401 AC SURFACE  |
| 06-02-1967 | BA-AG     | Base Course - Aggregate | \$0.00 | 6.00           | False    | 6" P209 CABG        |
| 06-01-1967 | SB-AG     | Subbase - Aggregate     | \$0.00 | 7.00           | False    | 7" P154 SUBBASE     |

**Branch - Section ID: T02NE - 01**

LCD: 7/1/1989  
 Use: TAXIWAY  
 Rank: P  
 Surface: PCC

Length (ft): 43.00  
 Width (ft): 44.00  
 True Area (sf): 2,799.00

| Work Date  | Work Code | Work Description       | Cost   | Thickness (in) | Major MR | Comments |
|------------|-----------|------------------------|--------|----------------|----------|----------|
| 07-01-1989 | NC-PC     | New Construction - PCC | \$0.00 | 0.00           | True     | -        |

**Branch - Section ID: T02NE - 02**

LCD: 4/1/2010  
 Use: TAXIWAY  
 Rank: P  
 Surface: AAC

Length (ft): 131.00  
 Width (ft): 40.00  
 True Area (sf): 6,629.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments                     |
|------------|-----------|-------------------------|--------|----------------|----------|------------------------------|
| 04-01-2010 | OL-AS     | Overlay - AC Structural | \$0.00 | 3.00           | True     | AIP 3-19-0065-11, -12, & -13 |
| 07-01-1988 | NC-AC     | New Construction - AC   | \$0.00 | 0.00           | True     | -                            |

**Branch - Section ID: T03NE - 01**

LCD: 4/1/2010  
 Use: TAXIWAY  
 Rank: P  
 Surface: AAC

Length (ft): 1,271.00  
 Width (ft): 35.00  
 True Area (sf): 57,618.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments        |
|------------|-----------|-------------------------|--------|----------------|----------|-----------------|
| 11-12-2014 | CS-AC     | Crack Sealing - AC      | \$0.00 | 0.00           | False    | -               |
| 04-01-2010 | OL-AS     | Overlay - AC Structural | \$0.00 | 5.00           | True     | 5" P401 OVERLAY |
| 01-02-1968 | NC-AC     | New Construction - AC   | \$0.00 | 0.00           | True     | -               |
| 01-01-1968 | BA-AG     | Base Course - Aggregate | \$0.00 | 0.00           | False    | 10.5" P209      |

**Branch - Section ID: T04NE - 01**

LCD: 7/1/1955  
 Use: TAXIWAY  
 Rank: P  
 Surface: PCC

Length (ft): 146.00  
 Width (ft): 30.00  
 True Area (sf): 4,324.00

| Work Date  | Work Code | Work Description       | Cost   | Thickness (in) | Major MR | Comments |
|------------|-----------|------------------------|--------|----------------|----------|----------|
| 07-01-1955 | NC-PC     | New Construction - PCC | \$0.00 | 0.00           | True     | -        |



# Work History

Pavement Database: IA 2021

**Branch - Section ID: T05NE - 01**

LCD: 4/1/2010  
 Use: TAXIWAY  
 Rank: P  
 Surface: AAC

Length (ft): 3,390.00  
 Width (ft): 35.00  
 True Area (sf): 126,127.00

| Work Date  | Work Code | Work Description             | Cost   | Thickness (in) | Major MR | Comments             |
|------------|-----------|------------------------------|--------|----------------|----------|----------------------|
| 11-12-2014 | CS-AC     | Crack Sealing - AC           | \$0.00 | 0.00           | False    | -                    |
| 04-01-2010 | OL-AS     | Overlay - AC Structural      | \$0.00 | 5.00           | True     | 5" P401 OVERLAY      |
| 03-02-1997 | CR-AC     | Complete Reconstruction - AC | \$0.00 | 7.50           | True     | 7.5" P401 AC SURFACE |
| 03-01-1997 | BA-AG     | Base Course - Aggregate      | \$0.00 | 10.50          | False    | 10.5" P209 CABC      |
| 01-01-1968 | NC-AC     | New Construction - AC        | \$0.00 | 0.00           | True     | -                    |

**Branch - Section ID: T06NE - 01**

LCD: 4/1/2010  
 Use: TAXIWAY  
 Rank: P  
 Surface: AAC

Length (ft): 340.00  
 Width (ft): 35.00  
 True Area (sf): 14,033.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments                     |
|------------|-----------|-------------------------|--------|----------------|----------|------------------------------|
| 11-12-2014 | CS-AC     | Crack Sealing - AC      | \$0.00 | 0.00           | False    | -                            |
| 04-01-2010 | OL-AS     | Overlay - AC Structural | \$0.00 | 5.00           | True     | AIP 3-19-0065-11, -12, & -13 |
| 01-01-1997 | NC-AC     | New Construction - AC   | \$0.00 | 0.00           | True     | -                            |

**Branch - Section ID: T07NE - 01**

LCD: 4/1/2010  
 Use: TAXIWAY  
 Rank: P  
 Surface: AAC

Length (ft): 170.00  
 Width (ft): 80.00  
 True Area (sf): 13,745.00

| Work Date  | Work Code | Work Description        | Cost   | Thickness (in) | Major MR | Comments                     |
|------------|-----------|-------------------------|--------|----------------|----------|------------------------------|
| 11-12-2014 | CS-AC     | Crack Sealing - AC      | \$0.00 | 0.00           | False    | -                            |
| 04-01-2010 | OL-AS     | Overlay - AC Structural | \$0.00 | 5.00           | True     | AIP 3-19-0065-11, -12, & -13 |
| 01-01-1997 | NC-AC     | New Construction - AC   | \$0.00 | 0.00           | True     | -                            |

**Branch - Section ID: T08NE - 01**

LCD: 6/1/2003  
 Use: TAXIWAY  
 Rank: P  
 Surface: PCC

Length (ft): 61.00  
 Width (ft): 40.00  
 True Area (sf): 2,465.00

| Work Date  | Work Code | Work Description           | Cost   | Thickness (in) | Major MR | Comments |
|------------|-----------|----------------------------|--------|----------------|----------|----------|
| 06-01-2003 | NU-IN     | New Construction - Initial | \$0.00 | 0.00           | True     | -        |

**Branch - Section ID: T08NE - 02**

LCD: 4/3/2010  
 Use: TAXIWAY  
 Rank: P  
 Surface: PCC

Length (ft): 58.00  
 Width (ft): 40.00  
 True Area (sf): 6,461.00

| Work Date  | Work Code | Work Description           | Cost   | Thickness (in) | Major MR | Comments                     |
|------------|-----------|----------------------------|--------|----------------|----------|------------------------------|
| 04-03-2010 | NU-IN     | New Construction - Initial | \$0.00 | 8.00           | True     | AIP 3-19-0065-11, -12, & -13 |

# Work History

Pavement Database: IA 2021

**Branch - Section ID: TH01NE - 01**

LCD: 1/1/1970  
 Use: T-HANGAR  
 Rank: P  
 Surface: PCC

Length (ft): 330.00  
 Width (ft): 40.00  
 True Area (sf): 13,225.00

| Work Date  | Work Code | Work Description       | Cost   | Thickness (in) | Major MR | Comments                          |
|------------|-----------|------------------------|--------|----------------|----------|-----------------------------------|
| 01-01-1970 | NC-PC     | New Construction - PCC | \$0.00 | 0.00           | True     | CONSTRUCTED PRIOR TO 1994 IMAGERY |

**Branch - Section ID: TH02NE - 01**

LCD: 7/3/2011  
 Use: T-HANGAR  
 Rank: P  
 Surface: PCC

Length (ft): 700.00  
 Width (ft): 25.00  
 True Area (sf): 18,201.00

| Work Date  | Work Code | Work Description              | Cost   | Thickness (in) | Major MR | Comments          |
|------------|-----------|-------------------------------|--------|----------------|----------|-------------------|
| 07-03-2011 | CR-PC     | Complete Reconstruction - PCC | \$0.00 | 6.00           | True     | 6" P-505 SURFACE  |
| 07-02-2011 | SB-AG     | Subbase - Aggregate           | \$0.00 | 4.00           | False    | 4" P-154 SUBBASE  |
| 07-01-2011 | SG-CO     | Subgrade - Compacted          | \$0.00 | 8.00           | False    | 8" P-152 SUBGRADE |

**Branch - Section ID: TH03NE - 01**

LCD: 5/3/2005  
 Use: T-HANGAR  
 Rank: P  
 Surface: PCC

Length (ft): 875.00  
 Width (ft): 25.00  
 True Area (sf): 22,244.00

| Work Date  | Work Code | Work Description       | Cost   | Thickness (in) | Major MR | Comments         |
|------------|-----------|------------------------|--------|----------------|----------|------------------|
| 05-03-2005 | NC-PC     | New Construction - PCC | \$0.00 | 5.00           | True     | 5" P-501 SURFACE |
| 05-02-2005 | SB-AG     | Subbase - Aggregate    | \$0.00 | 4.00           | False    | 4" P-154 SUBBASE |
| 05-01-2005 | SG-CO     | Subgrade - Compacted   | \$0.00 | 0.00           | False    | P-152 SUBGRADE   |

## **APPENDIX E**

### **LOCALIZED PREVENTIVE MAINTENANCE POLICIES AND UNIT COST TABLES**

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

| <b>Distress Type</b>      | <b>Severity Level</b> | <b>Maintenance Action</b> |
|---------------------------|-----------------------|---------------------------|
| 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.

| <b>Distress Type</b>        | <b>Severity Level</b> | <b>Maintenance Action</b> |
|-----------------------------|-----------------------|---------------------------|
| 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. 2022 unit costs for preventive maintenance actions.

| Maintenance Action                      | Unit Cost  |
|---|------------|
| Asphalt Patch—Asphalt-Surfaced Pavement | \$14.66/sf |
| Crack Sealing—Asphalt-Surfaced Pavement | \$2.51/lf  |
| Partial Depth PCC Patch—PCC Pavement    | \$37.54/sf |
| Full Depth PCC Patch—PCC Pavement       | \$16.76/sf |
| Crack Sealing—PCC Pavement              | \$3.02/lf  |
| Joint Sealing—PCC Pavement              | \$3.02/lf  |
| Grinding—PCC Pavement                   | \$0.36/sf  |
| Slab Replacement—PCC Pavement           | \$16.76/sf |

Table E-4. 2022 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 |
|---------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| AC            | \$10.41        | \$4.93          | \$4.93          | \$4.93          | \$0.00          | \$0.00          | \$0.00           |
| PCC           | \$17.38        | \$8.22          | \$8.22          | \$8.22          | \$0.00          | \$0.00          | \$0.00           |

## **APPENDIX F**

# **YEAR 2022 LOCALIZED PREVENTIVE MAINTENANCE DETAILS**

Table F-1. Year 2022 localized preventive maintenance details.

| Branch | Section | Distress Type     | Severity | Distress Quantity | Distress Unit | Maintenance Action           | Unit Cost | 2022 Estimated Cost |
|--------|---------|-------------------|----------|-------------------|---------------|------------------------------|-----------|---------------------|
| A01NE  | 01      | ASR               | Medium   | 6                 | Slabs         | Slab Replacement - PCC       | \$16.76   | \$16,004            |
| A01NE  | 01      | Corner Break      | Medium   | 3                 | Slabs         | Patching - PCC Full Depth    | \$16.76   | \$1,752             |
| A01NE  | 01      | Corner Spalling   | Medium   | 10                | Slabs         | Patching - PCC Partial Depth | \$37.54   | \$981               |
| A01NE  | 01      | Joint Seal Damage | High     | 492               | Slabs         | Joint Seal (Localized)       | \$3.02    | \$34,478            |
| A01NE  | 01      | Joint Spalling    | Medium   | 13                | Slabs         | Patching - PCC Partial Depth | \$37.54   | \$3,139             |
| A01NE  | 01      | LTD Cracking      | Medium   | 16                | Slabs         | Crack Sealing - PCC          | \$3.02    | \$594               |
| A03NE  | 01      | Joint Seal Damage | Medium   | 432               | Slabs         | Joint Seal (Localized)       | \$3.02    | \$33,486            |
| A03NE  | 01      | Joint Spalling    | Medium   | 2                 | Slabs         | Patching - PCC Partial Depth | \$37.54   | \$589               |
| A03NE  | 01      | Joint Spalling    | High     | 1                 | Slabs         | Patching - PCC Partial Depth | \$37.54   | \$303               |
| A03NE  | 01      | Large Patch       | High     | 1                 | Slabs         | Patching - PCC Full Depth    | \$16.76   | \$990               |
| A03NE  | 02      | Joint Seal Damage | Medium   | 238               | Slabs         | Joint Seal (Localized)       | \$3.02    | \$18,156            |
| A03NE  | 03      | Joint Seal Damage | Medium   | 272               | Slabs         | Joint Seal (Localized)       | \$3.02    | \$18,905            |
| T02NE  | 01      | Joint Seal Damage | High     | 26                | Slabs         | Joint Seal (Localized)       | \$3.02    | \$1,229             |
| T02NE  | 02      | L&T Cracking      | Medium   | 119               | Ft            | Crack Sealing - AC           | \$2.51    | \$299               |
| T03NE  | 01      | L&T Cracking      | Medium   | 1,203             | Ft            | Crack Sealing - AC           | \$2.51    | \$3,019             |
| T03NE  | 01      | L&T Cracking      | High     | 44                | Ft            | Crack Sealing - AC           | \$2.51    | \$109               |
| T05NE  | 01      | L&T Cracking      | Medium   | 1,842             | Ft            | Crack Sealing - AC           | \$2.51    | \$4,623             |
| T05NE  | 01      | L&T Cracking      | High     | 120               | Ft            | Crack Sealing - AC           | \$2.51    | \$302               |
| T06NE  | 01      | L&T Cracking      | Medium   | 567               | Ft            | Crack Sealing - AC           | \$2.51    | \$1,423             |



Table F-1. Year 2022 localized preventive maintenance details (continued).

| Branch | Section | Distress Type     | Severity | Distress Quantity | Distress Unit | Maintenance Action           | Unit Cost | 2022 Estimated Cost |
|--------|---------|-------------------|----------|-------------------|---------------|------------------------------|-----------|---------------------|
| T08NE  | 01      | Corner Spalling   | Medium   | 1                 | Slabs         | Patching - PCC Partial Depth | \$37.54   | \$101               |
| T08NE  | 01      | Joint Seal Damage | Medium   | 16                | Slabs         | Joint Seal (Localized)       | \$3.02    | \$933               |
| T08NE  | 02      | Joint Seal Damage | Medium   | 65                | Slabs         | Joint Seal (Localized)       | \$3.02    | \$3,088             |
| TH02NE | 01      | Joint Seal Damage | Medium   | 91                | Slabs         | Joint Seal (Localized)       | \$3.02    | \$5,115             |
| TH02NE | 01      | LTD Cracking      | Medium   | 6                 | Slabs         | Crack Sealing - PCC          | \$3.02    | \$215               |
| TH02NE | 01      | Small Patch       | Medium   | 1                 | Slabs         | Patching - PCC Full Depth    | \$16.76   | \$64                |
| TH03NE | 01      | Joint Spalling    | Medium   | 2                 | Slabs         | Patching - PCC Partial Depth | \$37.54   | \$425               |

Table Notes:

1. See Figure 3 for the location of the branch and section.
2. Distress types are defined by ASTM D5340-20. 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 adjustment to reflect specific conditions at Newton Municipal Airport-Earl Johnson Field.



**PREPARED FOR**

Iowa Department of Transportation  
Modal Transportation Bureau — Aviation  
800 Lincoln Way  
Ames, Iowa 50010  
515-239-1691  
[iowadot.gov/aviation](http://iowadot.gov/aviation)

**JULY 2022**