Alaska DOT&PF

Data Modernization and Innovation
Pavement Management
5800 East Tudor Road, Anchorage AK 99507

Pavement Inspection Report
Birchwood Airport

Airport Name	IATA	ICAO	Latitude	Longitude	Elevation (ft)
Birchwood Airport	BCV	PABV	62° 24' 58" N	149° 30' 30" W	83

Please refer all questions or for further information about this report, please contact the Alaska DOT&PF Pavement Management and Preservation Office as follows:

Point of Contact	Phone	Email	Date Inspected	Date Published
Mr. Andrew Pavey, Pavement Management Engineer	(907) 269 6213	andrew.pavey@alaska.gov	August 2024	January 2025

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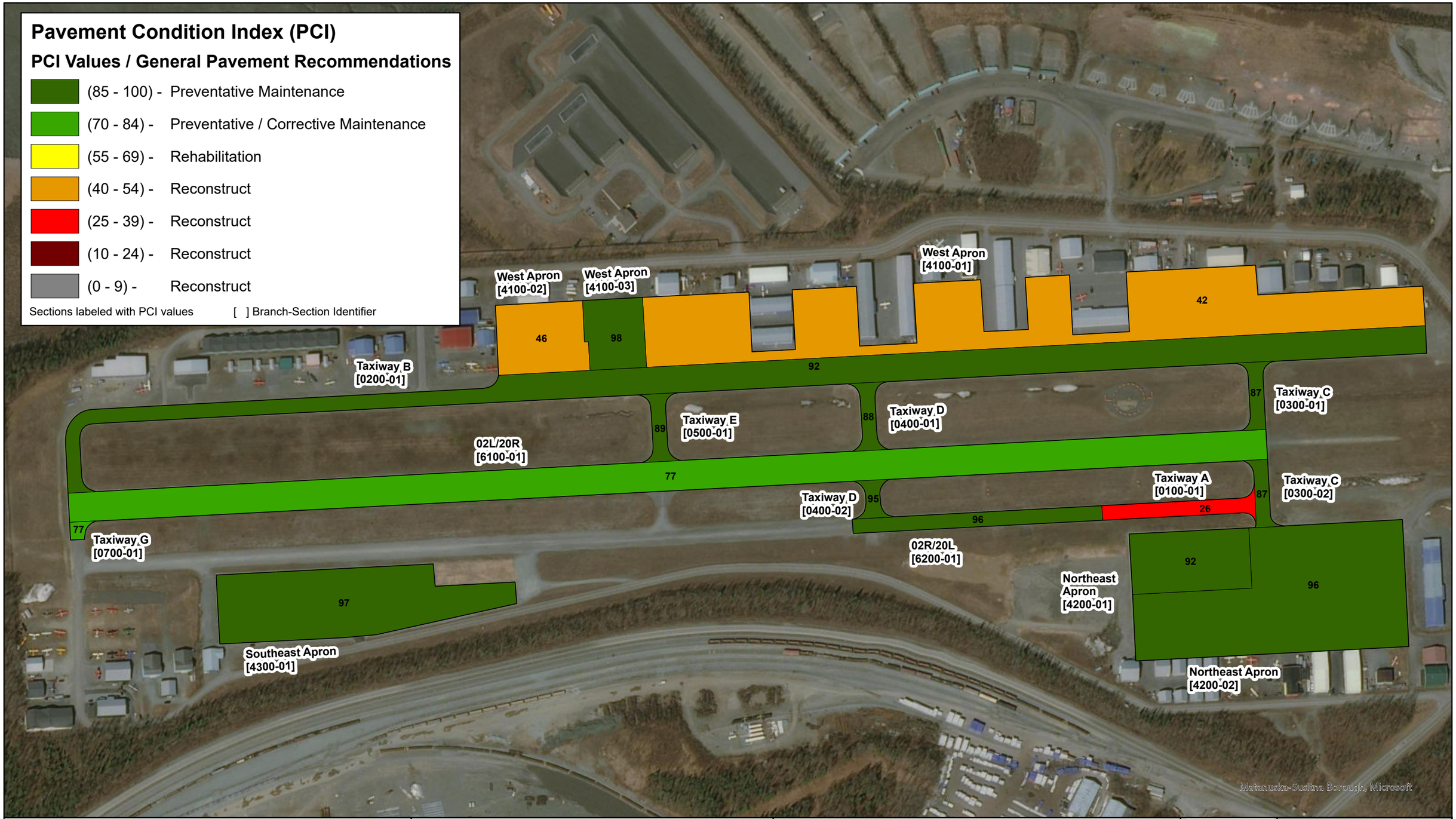
Pavement Condition Index (PCI)

PCI Values / General Pavement Recommendations

- (85 - 100) - Preventative Maintenance
- (70 - 84) - Preventative / Corrective Maintenance
- (55 - 69) - Rehabilitation
- (40 - 54) - Reconstruct
- (25 - 39) - Reconstruct
- (10 - 24) - Reconstruct
- (0 - 9) - Reconstruct

Sections labeled with PCI values [ ] Branch-Section Identifier



Birchwood Airport

Airport Code: PABV

Pavement Condition Index (PCI)

Target PCI Range for Runways: 70 to 100

Target PCI Range for Taxiways and Aprons: 60 to 100

2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by State of Alaska DOT&PF

Map 1 of 6

Pavement Condition Index (PCI)

PCI Values / General Pavement Recommendations

- (85 - 100) - Preventative Maintenance
- (70 - 84) - Preventative / Corrective Maintenance
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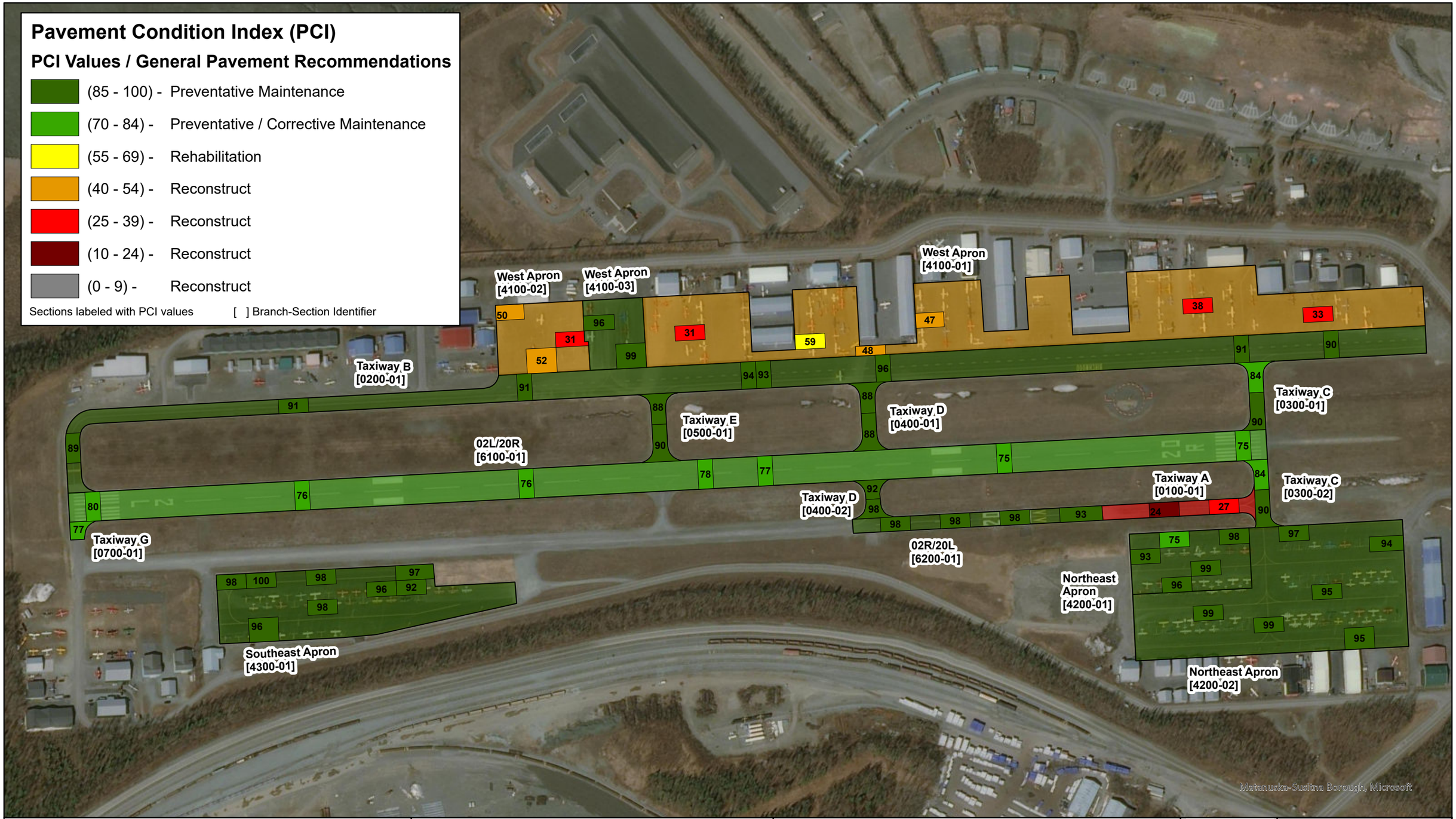

Birchwood Airport

Airport Code: PABV

Sample Unit
Pavement Condition Index (PCI)

2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
State of Alaska DOT&PF

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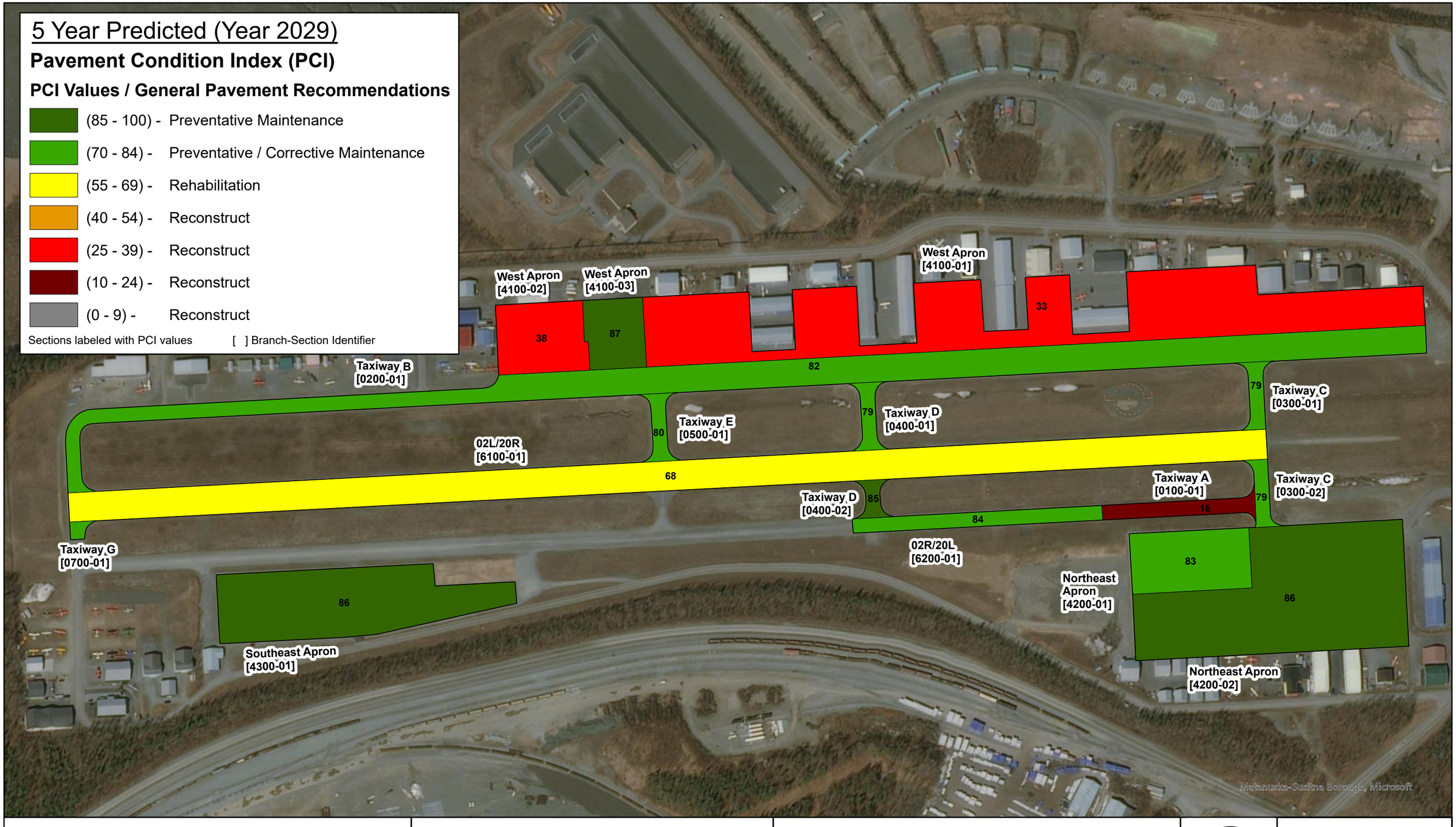
5 Year Predicted (Year 2029)

Pavement Condition Index (PCI)

PCI Values / General Pavement Recommendations

- (85 - 100) - Preventative Maintenance
- (70 - 84) - Preventative / Corrective Maintenance
- (55 - 69) - Rehabilitation
- (40 - 54) - Reconstruct
- (25 - 39) - Reconstruct
- (10 - 24) - Reconstruct
- (0 - 9) - Reconstruct

Sections labeled with PCI values [ ] Branch-Section Identifier



Birchwood Airport

Airport Code: PABV

5 Year Predicted
Pavement Condition Index (PCI)

Target PCI Range for Runways: 70 to 100
Target PCI Range for Taxiways and Aprons: 60 to 100

2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
State of Alaska DOT&PF

Map 3 of 6

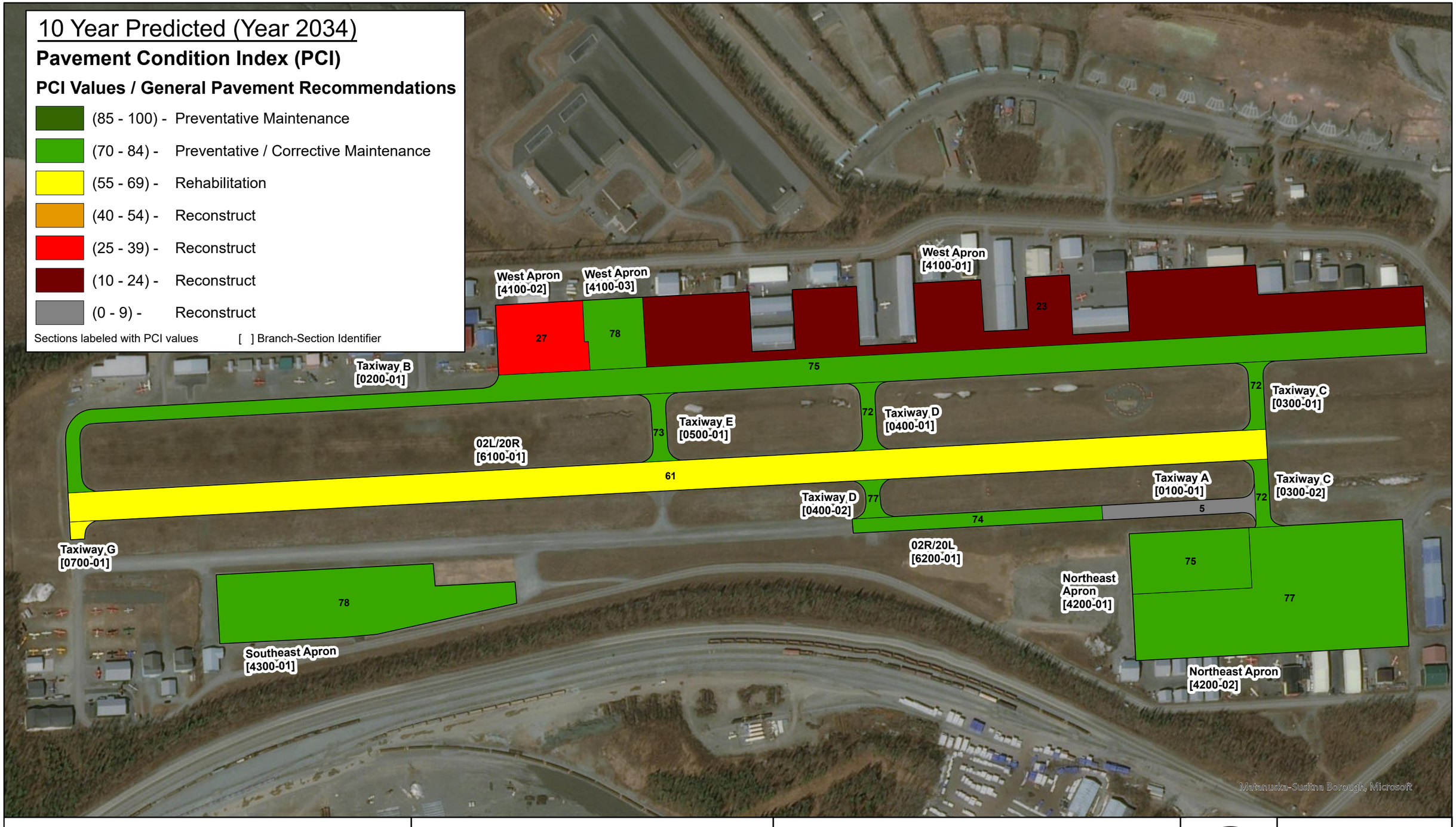
10 Year Predicted (Year 2034)

Pavement Condition Index (PCI)

PCI Values / General Pavement Recommendations

- (85 - 100) - Preventative Maintenance
- (70 - 84) - Preventative / Corrective Maintenance
- (55 - 69) - Rehabilitation
- (40 - 54) - Reconstruct
- (25 - 39) - Reconstruct
- (10 - 24) - Reconstruct
- (0 - 9) - Reconstruct

Sections labeled with PCI values [ ] Branch-Section Identifier



Birchwood Airport

Airport Code: PABV

10 Year Predicted Pavement Condition Index (PCI)

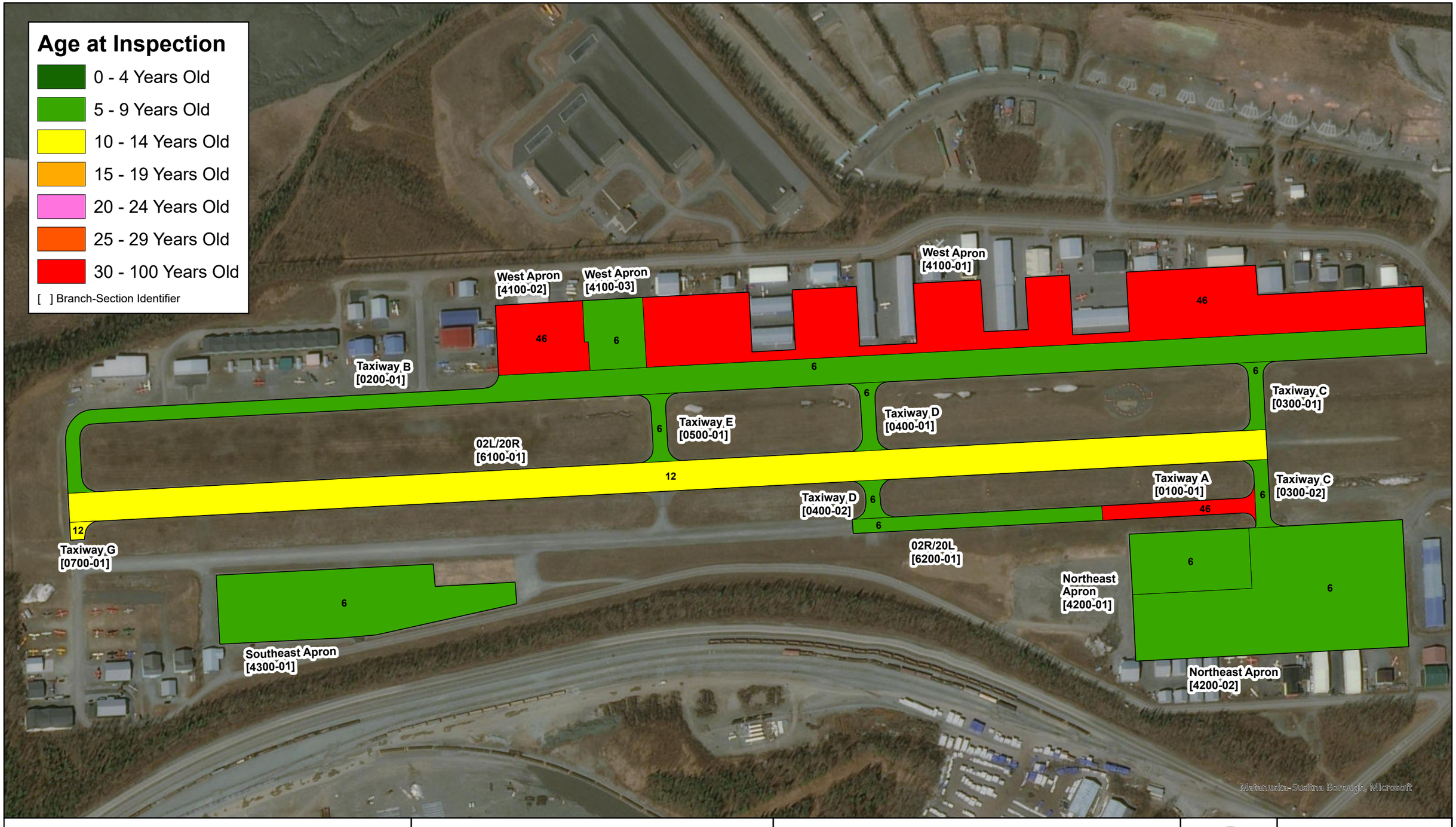
Target PCI Range for Runways: 70 to 100
Target PCI Range for Taxiways and Aprons: 60 to 100

2024 Pavement Inspection Results

0 250 500 1,000
Feet

Map Created by State of Alaska DOT&PF

Map 4 of 6



Birchwood Airport

Airport Code: PABV

Pavement Age at Inspection

2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
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Map 5 of 6

Crack Seal Condition (CSC)

- No CS - New Surface
- Has CS - Good
- Has CS - Touch Up
- No CS - Recommend CS
- Has CS - Replace
- No CS - Below Repair
- PCC - Concrete

West Apron [4100-02]
West Apron [4100-03]
West Apron [4100-01]
Taxiway B [0200-01]
Taxiway E [0500-01]
Taxiway D [0400-01]
Taxiway C [0300-01]
02L/20R [6100-01]
Taxiway D [0400-02]
Taxiway A [0100-01]
Taxiway C [0300-02]
Taxiway G [0700-01]
02R/20L [6200-01]
Northeast Apron [4200-01]
Southeast Apron [4300-01]
Northeast Apron [4200-02]
Matanuska-Susitna Borough, Microsoft

Birchwood Airport

Airport Code: PABV

Pavement Crack Seal Condition (CSC)

2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
State of Alaska DOT&PF

Map 6 of 6

AIRPORT PAVEMENT INSPECTION NOTES BY BRANCH

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0100	Taxiway A	Taxiway	1	26,400	26

Taxiway A was originally constructed in 1978 and has not been resurfaced. Common distresses on the taxiway are moderate to high severity block cracking, alligator cracking, low to moderate severity weathering and medium severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0200	Taxiway B	Taxiway	1	361,930	92

Taxiway B was constructed in 1978 and resurfaced in 2018. Observed distresses are low severity longitudinal and transverse cracking, low to medium severity weathering and isolated areas of low to medium severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0300	Taxiway C	Taxiway	2	23,945	87

Taxiway C was constructed in 1978 and was resurfaced in 2018. Distresses are low severity longitudinal and transverse cracking, low severity weathering and isolated moderate severity weathering and raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0400	Taxiway D	Taxiway	2	20,890	91

Taxiway D was constructed in 1978 and was resurfaced in 2018. Common distresses are low severity longitudinal and transverse cracking, low severity weathering and small amounts of low severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0500	Taxiway E	Taxiway	1	12,905	89

Taxiway E was constructed in 1978 and was resurfaced in 2018. The distresses on the taxiway are low to moderate severity longitudinal and transverse cracking and low severity weathering.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0700	Taxiway G	Taxiway	1	3,290	77

Taxiway G was constructed in 1978 and was resurfaced in 2012. The primary distresses are low severity longitudinal and transverse cracking and low to moderate severity weathering.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
4100	West Apron	Apron	3	532,110	47

4100-01 and 4100-02 – PCI 43

4100-03 – PCI 98

The West Apron (Sections 4100-01 and 4100-02) were constructed in 1978 and have not been resurfaced since. Distresses are low to high severity block cracking, low to medium severity weathering and low to medium severity raveling.

Section 4100-03 was originally constructed in 1978 and was reconstructed in 2018. Distresses are low quantities of low severity weathering and oil spillage.

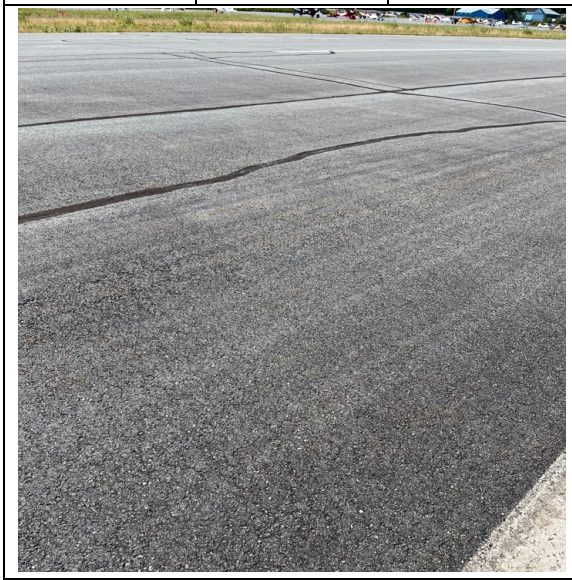
Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
4200	Northeast Apron	Apron	2	383,880	96

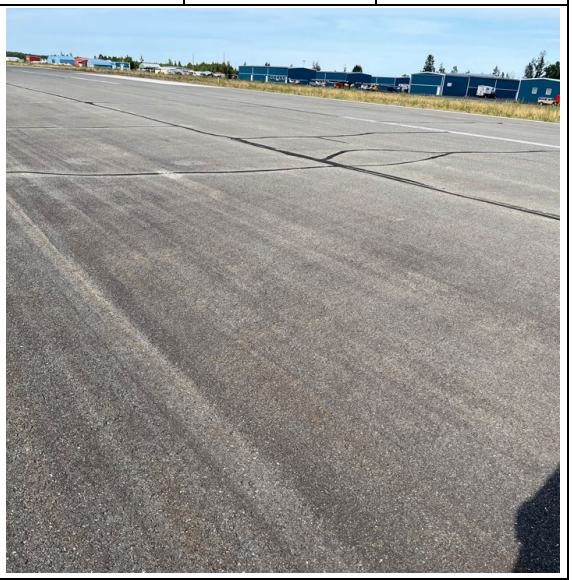
The 4200-01 portion of the Northeast Apron was constructed in 1987 and reconstructed in 2018. Section 4200-02 was constructed in 1978 and reconstructed in 2018. Predominant distresses are low severity weathering and scattered low severity longitudinal and transverse cracking. Along the northwestern edge of the apron there is an area with medium severity longitudinal and transverse cracking and small voids in the hot mix asphalt that had been previously filled with crack seal.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
4300	Southeast Apron	Apron	1	187,595	97

The Southeast Apron was constructed in 1987 and reconstructed in 2018. Commonly observed distresses are low severity weathering and small amounts of oil spillage.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
6100	02L/20R	Runway	1	400,000	77





Runway 02L/20R was constructed in 1978 and received surface reconstruction in 2012. Observed distresses are low severity longitudinal and transverse cracking and low severity weathering.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
6200	02R/20L	Runway	1	41,750	97

Runway 02R/20L was constructed in 1978 and reconstructed in 2018. The predominant distress is low severity weathering. This is the paved portion of a predominantly gravel runway.

BRANCH CONDITION REPORT

Branch ID	No. of Sections	Sum Section Length (Ft)	Avg Section Width (Ft)	True Area (Sq Ft)	Use	Average PCI	Standard Deviation PCI	Weighted Average PCI
0100	1	510	50	26,400	Taxiway	25.60	0.00	25.60
0200	1	4,540	50	361,930	Taxiway	91.90	0.00	91.90
0300	2	450	50	23,945	Taxiway	87.30	0.10	87.30
0400	2	350	50	20,890	Taxiway	91.60	3.50	90.80
0500	1	225	50	12,905	Taxiway	88.70	0.00	88.70
0700	1	60	45	3,290	Taxiway	77.10	0.00	77.10
4100	3	3,100	230	532,110	Apron	61.93	25.54	47.44
4200	2	820	557	383,880	Apron	94.40	2.00	95.57
4300	1	1,000	230	187,595	Apron	96.80	0.00	96.80
6100	1	4,000	100	400,000	Runway	76.80	0.00	76.80
6200	1	835	50	41,750	Runway	96.5	0	96.50

Note: the dimensions in the Branch Condition Report are derived from area calculations and may not reflect actual dimensions of individual sections. Refer to the maps for actual section dimensions.

BRANCH USE CONDITION REPORT

Use Category	No. of Sections	Total Area (Sq Ft)	Arithmetic Average PCI	Standard Deviation PCI	Weighted Average PCI
APRON	6	1,103,585	78.57	24.59	72.57
RUNWAY	2	441,750	86.65	9.85	78.66
TAXIWAY	8	449,360	80.14	21.17	87.51
ALL	16	1,994,695	80.36	21.66	77.29

SECTION CONDITION REPORT

Branch ID	Section ID	Last Const. Date	Surf.	Use	Rank	True Area (Sq Ft)	Last Inspection Date	Age At Inspection	PCI
0100	0100-01	9/1/1978	AC	TAXIWAY	T	26,400.00	8/1/2024	46	26
0200	0200-01	6/1/2018	AC	TAXIWAY	T	361,930.00	8/1/2024	6	92
0300	0300-01	6/1/2018	AC	TAXIWAY	T	12,240.00	8/1/2024	6	87
	0300-02	6/1/2018	AC	TAXIWAY	T	11,705.00	8/1/2024	6	87
0400	0400-01	6/1/2018	AC	TAXIWAY	T	12,845.00	8/1/2024	6	88
	0400-02	6/1/2018	AC	TAXIWAY	T	8,045.00	8/1/2024	6	95
0500	0500-01	6/1/2018	AC	TAXIWAY	T	12,905.00	8/1/2024	6	89
0700	0700-01	9/1/2012	AC	TAXIWAY	T	3,290.00	8/1/2024	12	77
4100	4100-01	9/1/1978	AC	APRON	T	418,610.00	8/1/2024	46	42
	4100-02	9/1/1978	AC	APRON	T	68,300.00	8/1/2024	46	46
	4100-03	6/1/2018	AC	APRON	T	45,200.00	8/1/2024	6	98
4200	4200-01	6/1/2018	AC	APRON	T	80,000.00	8/1/2024	6	92
	4200-02	6/1/2018	AC	APRON	T	303,880.00	8/1/2024	6	96
4300	4300-01	6/1/2018	AC	APRON	T	187,595.00	8/1/2024	6	97
6100	6100-01	9/1/2012	AC	RUNWAY	T	400,000.00	8/1/2024	12	77
6200	6200-01	6/1/2018	AC	RUNWAY	T	41,750.00	8/1/2024	6	97

SECTION CONDITION REPORT (SUMMARY BY AGE CATEGORY)

Age Category	Average Age at Inspection	Total Area (Sq Ft)	Number of Sections	Arithmetic Average PCI	Standard Deviation PCI	Weighted Average PCI
06-10	6	1,078,095	11	92.59	3.99	94.33
11-15	12	403,290	2	76.95	0.15	76.80
41-50	46	513,310	3	37.80	8.73	41.87
ALL	14	1,994,695	16	80.36	21.66	77.29

PHYSICAL PROPERTY DATA

Branch ID	Section ID	Pavement		Base		Subbase		Subgrade	
		Thick (in)	Type	Thick (in)	Type	Thick (in)	Type	Type	CBR
Taxiway A 0100	0100-01	2	P-401	4	P-209	Variable	Embankment	GP-GM	30
Taxiway B 0200	0200-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
Taxiway C 0300	0300-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
	0300-02	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
Taxiway D 0400	0400-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
	0400-02	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
Taxiway E 0500	0500-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
Taxiway G 0700	0700-01	2	P-401	4	P-209	Variable	Embankment	GP-GM	30
West Apron 4100-01	4100-01	2	P-401	4	P-209	Variable	Embankment	GP-GM	30
	4100-02	2	P-401	4	P-209	Variable	Embankment	GP-GM	30
	4100-03	3	P-401	4	P-209	Variable	Embankment	GP-GM	30
Northeast Apron 4200	4200-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
	4200-02	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
Southcoast Apron 4300	4300-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30
Runway 02L/20R 6100-01	6100-01	2	P-401	4	P-209	Variable	Embankment	GP-GM	30
Runway 02R/20L 6200-01	6200-01	3	P-401	4	FASB	Variable	Embankment	GP-GM	30

Notes – Embankment thickness is variable, and quality is unknown. Drilling data used to determine subgrade type was performed in 1987 on 4200-01 and 4300-01, and on the access road adjacent to 4100-01. Subgrade type is inferred to be the same on other sections as material was consistent throughout drilling.
FASB is Foamed Asphalt Stabilized Base.

AIRCRAFT FLEET MIX

No.	Aircraft	Gross Wt (lb)	% Gross Wt on Main Gear	Tire Pressure (psi)	Annual Departures	20 Yr Coverages
1	Beechcraft Baron 55	5,424	95	56	33	132
2	Beechcraft Bonanza F33A	3,412	95	40	11	43
3	Cessna 172 Skyhawk	2,558	95	50	3,647	12,888
4	Cessna 182 Skylane	3,110	95	50	2,426	8,904
5	Cessna 206 Stationair	3,612	95	52	1,385	5,199
6	Cessna 208B Grand Caravan EX	8,750	95	75	14	58
7	Cessna 414/414A Chancellor	6,200	95	62	60	242
8	D-40	41,888	95	90	15	131
9	Learjet 35/36/35A/36A	18,000	95	171	4	27
10	PA-23-250 Aztec	5,200	95	46	418	1,732
11	PA-28R-200 Cherokee Arrow	2,500	95	50	129	454
12	PA-31-325 Navajo C/R	6,536	95	66	7	28
13	PA-32-300 Cherokee Six	3,400	95	50	7	26
14	PA-34-220T Seneca II/ III/ IV/V	4,570	95	55	62	240
15	PA-46-350P Malibu Mirage	4,118	95	55	4	15
16	S-12.5	12,500	95	50	74	368
17	S-3	3,000	95	50	1,094	3,944
18	S-5	5,000	95	50	62	247

PAVEMENT CLASSIFICATION RATINGS

Runway	Critical Aircraft	Max Allowable Wt (lb)	Subgrade Mr (psi)	Evaluation Thickness (in)	Pass to Traffic Cycle Ratio	PCR
02L/20R	Cessna 208B Grand Caravan	15,000	22,500	8	1.0	30/F/A/X/U

PCR CALCULATION NOTES

- 1% traffic growth assumed
- Subgrade strength reduction for frost applied
- S-3, S-5, S-12.5 and D-40 refers to “generic” single and dual gear aircraft as modeled in FAARFIELD. The critical aircraft from the Technical Method is (ENB-135ER) is modeled in FAARFIELD as D-40.
- Technical method calculated a PCR of 182 F/A/X/T and the using aircraft method was chosen to publish the PCR value.
- Aircraft fleet mix is based on the Birchwood Airport Layout Plan Aviation Activity Forecast, dated September 2021

REFERENCES

Year	Reference No.	Document Title
2018	CFAPT00275	Birchwood Airport Taxiway and Apron Reconstruction As-Built
2012	52966	Birchwood Airport Runway Pavement Rehabilitation As-Built
1987	56721	Birchwood Airport Miscellaneous Improvements As-Built
1987	56721	Birchwood Airport Improvements Engineering Geology and Soils Report
1977	7-02-003401 / 5-02-0034-03	Birchwood Airport Improvements As-Built