GRANT COUNTY REGIONAL AIRPORT / OGILVIE FIELD

This report describes how your Pavement Maintenance Management Program (PMMP) was developed. Your Program was developed as part of the Oregon Continuous Aviation System Plan sponsored in part by the Oregon Department of Aviation and the Federal Aviation Administration (FAA). The information and data contained in this report ensures you comply with the requirements of FAA Grant Assurance Number 11 which states that any airport requesting federal funds for pavement improvement projects must have implemented a pavement maintenance management program.

DATA COLLECTION

To determine how your pavements were constructed and their age, a records review was conducted. Figure JD-1 shows the records review results. This figure identifies pavement boundaries, dimensions, pavement layer types, thicknesses and dates of construction. The most recent construction date for each pavement can also be found in the Section Condition Report in Appendix 2. Figure JD-1 and the information contained in Appendices 1, 2 and 4 ensure that your airport complies with the "pavement inventory" requirement of FAA's PMMP guidelines.

The pavements at your airport were divided into branches, sections and sample units in accordance with the methodology outlined in the current edition of ASTM D5430, *Standard Test Method for Airport Condition Index Surveys*. The branches, sections and sample units established at your airport are shown in Figure JD-2. A Branch Condition Report showing all branches, their associated areas, and their area-weighted average condition is provided in Appendix 1. Additionally, the Appendix 2 Section Condition Report provides information used to define each branch and section in the PAVER database.

Using the branch, section and sample unit divisions established, a visual condition survey was conducted at Grant County Regional Airport/Ogilvie Field in June 2017. During the inspection pavement defects were identified and measured in accordance with the methodology outlined in ASTM D5430. This inspection ensures your airport complies with the "detailed inspection" requirement of FAA's PMMP guidelines. After collection, the data were entered into the PAVER software for analysis. These data are reproduced in the Re-Inspection Report attached as Appendix 4.

The PAVER database updated during this project ensures your airport complies with the "record keeping and information retrieval" requirements of FAA's PMMP guidelines.

Figure JD-1. Airport Layout, Dimensions and Pavement Cross-Sections. Grant County Regional Airport/Ogilvie Field

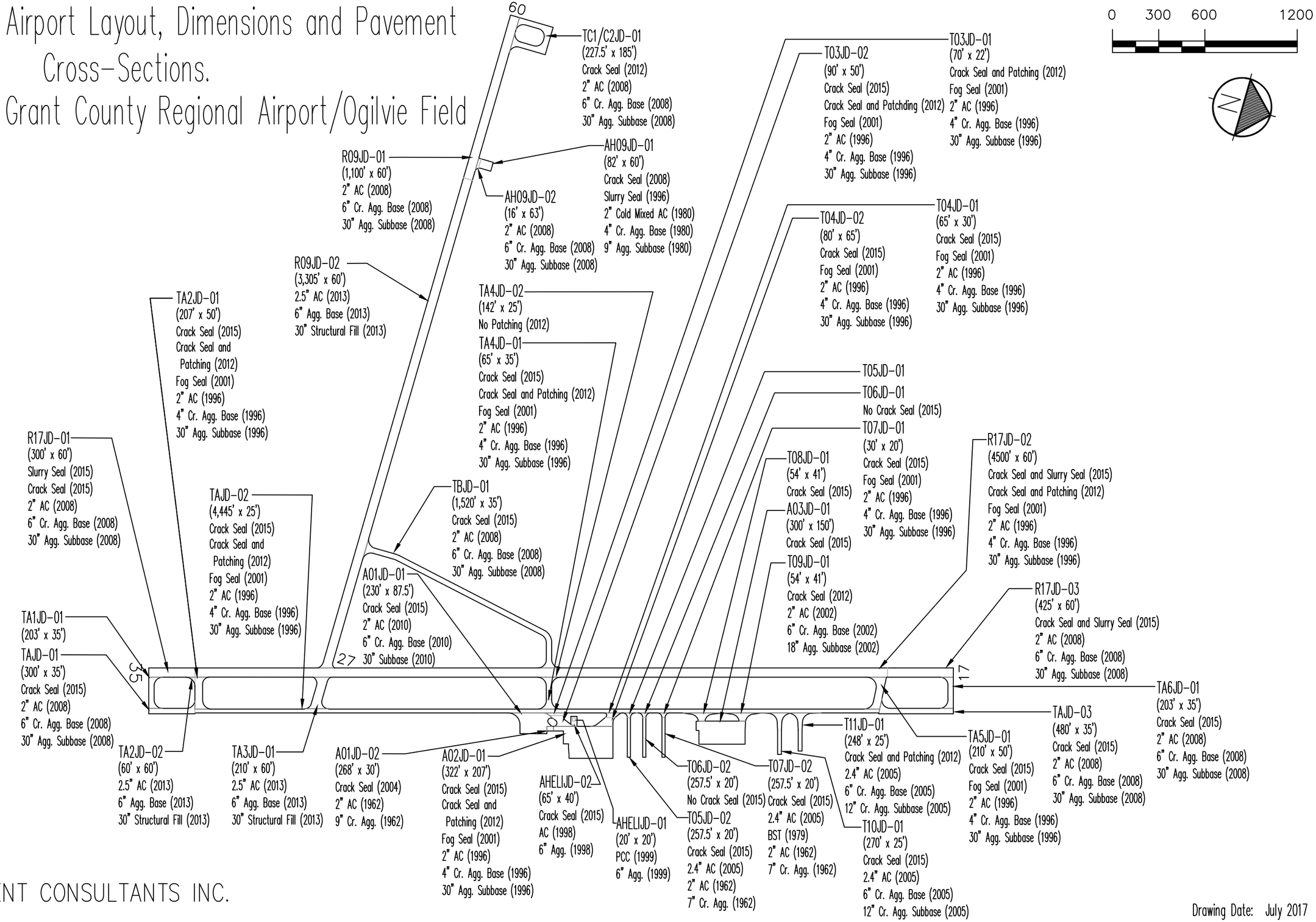

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Figure JD-2. Pavement Branch, Section and Sample Unit Layout.
Grant County Regional Airport/Ogilvie Field

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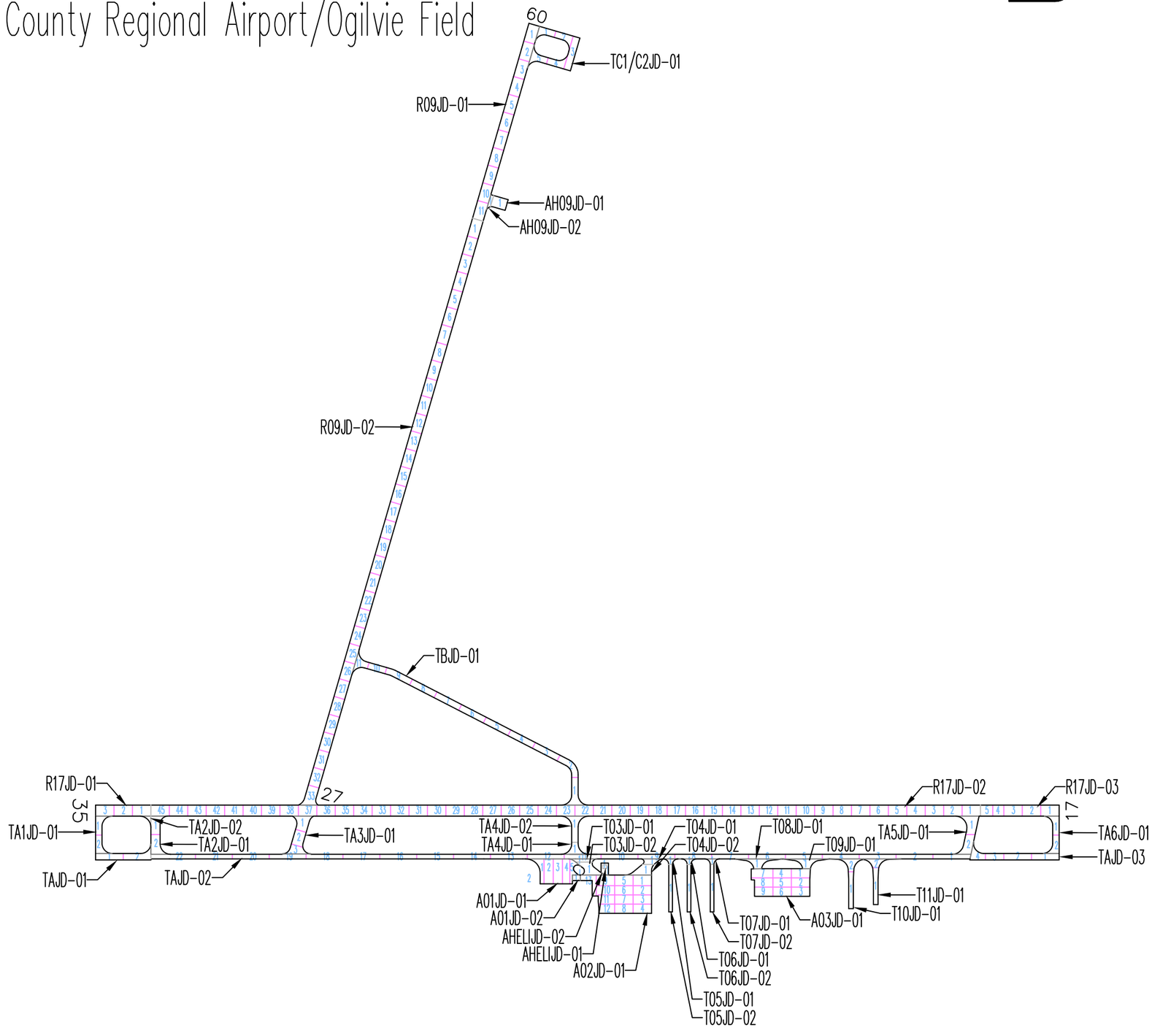

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RESULTS

Using the data collected during the visual inspection, the PAVER software was used to calculate an area-weighted average Pavement Condition Index (PCI) for each pavement section inspected using the sample units evaluated. Using each section's PCI, a Pavement Condition Rating (PCR) was assigned. The PCIs measured during this inspection are shown in Table 1. The table also contains PCIs from past inspections as well as projected PCIs for 2022 and 2027. The projections were based on pavement deterioration models developed by PAVER using the inspection data from other pavements in the same airport category as your airport, located in the same climatic region, and with the same surface type and use.

The Branch Condition Report in Appendix 1 summarizes current pavement condition by branch while the Section Condition Report in Appendix 2 lists pavement condition by section. The current Pavement Condition Rating (PCR) is shown graphically in Figure JD-3.

Table 1. Past, Present and Future Pavement Condition Indices.

Branch	Section	Inspections			Forecast	
		2011	2014	2017	2022	2027
A01JD	01	100	87	82	73	68
A01JD	02	100	25	39	31	22
A02JD	01	73	69	71	67	63
A03JD	01	79	66	71	67	63
AH09JD	01	41	43	63	60	55
AH09JD	02	---	---	100	84	75
AHELIJD	01	100	86	86	82	79
AHELIJD	02	64	63	64	61	57
R09JD	01	100	94	85	76	69
R09JD	02	---	100	100	94	85
R17JD	01	100	93	87	78	70
R17JD	02	80	76	74	67	65
R17JD	03	100	88	89	80	72
T03JD	01	73	81	79	72	69
T03JD	02	70	75	60	50	39
T04JD	01	62	61	64	57	46
T04JD	02	76	75	76	71	67
T05JD	01	82	79	80	73	69
T05JD	02	100	90	90	81	74
T06JD	01	78	79	79	72	69
T06JD	02	100	94	90	81	74
T07JD	01	83	79	82	75	70
T07JD	02	100	84	90	81	74
T08JD	01	79	62	65	60	49

Figure JD-3. Pavement Condition in June 2017
Grant County Regional Airport/Ogilvie Field

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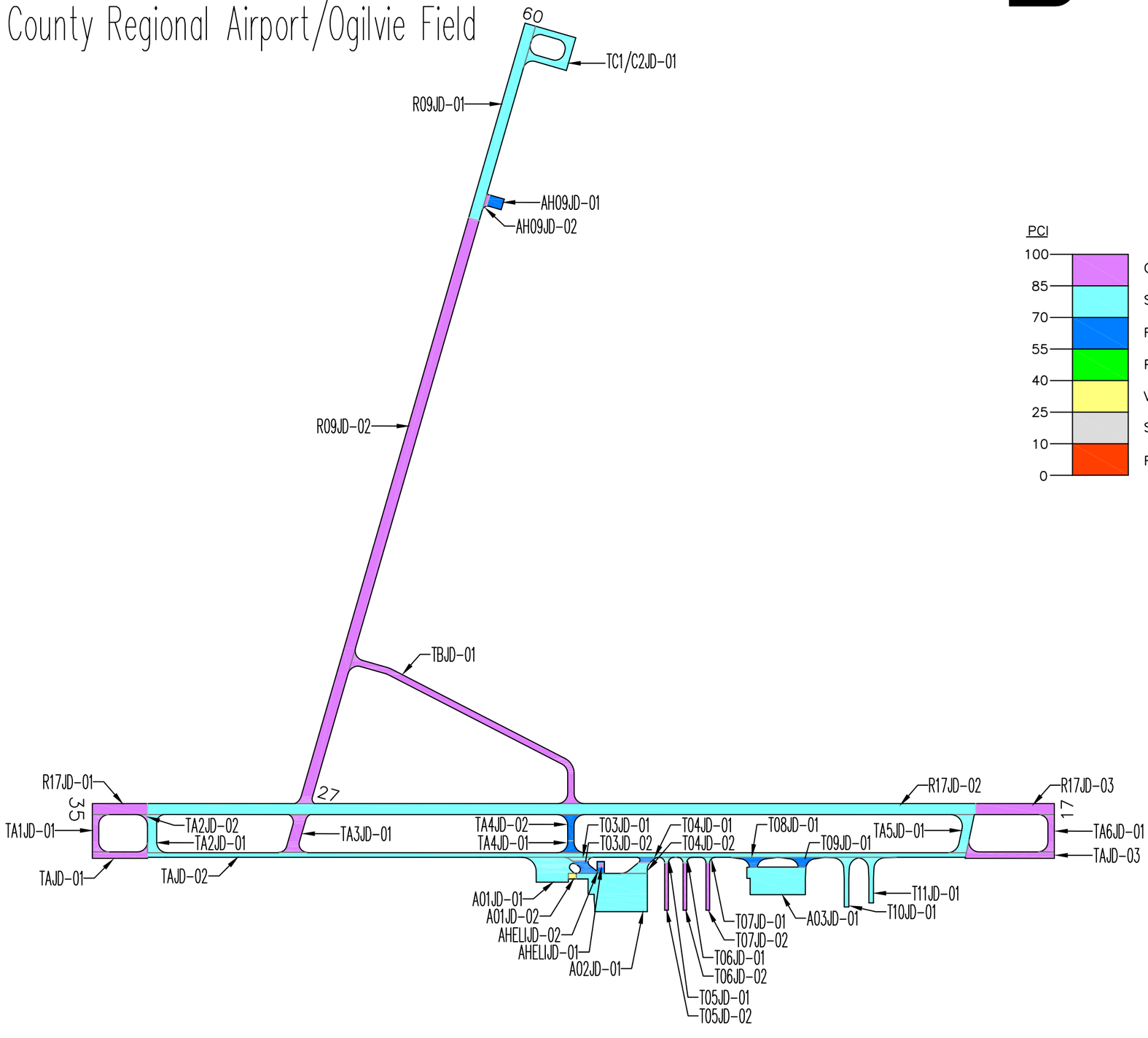

PCI	PCR
100	GOOD
85	SATISFACTORY
70	FAIR
55	POOR
40	VERY POOR
25	SERIOUS
10	FAILED
0	

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Table 1. Past, Present and Future Pavement Condition Indices.

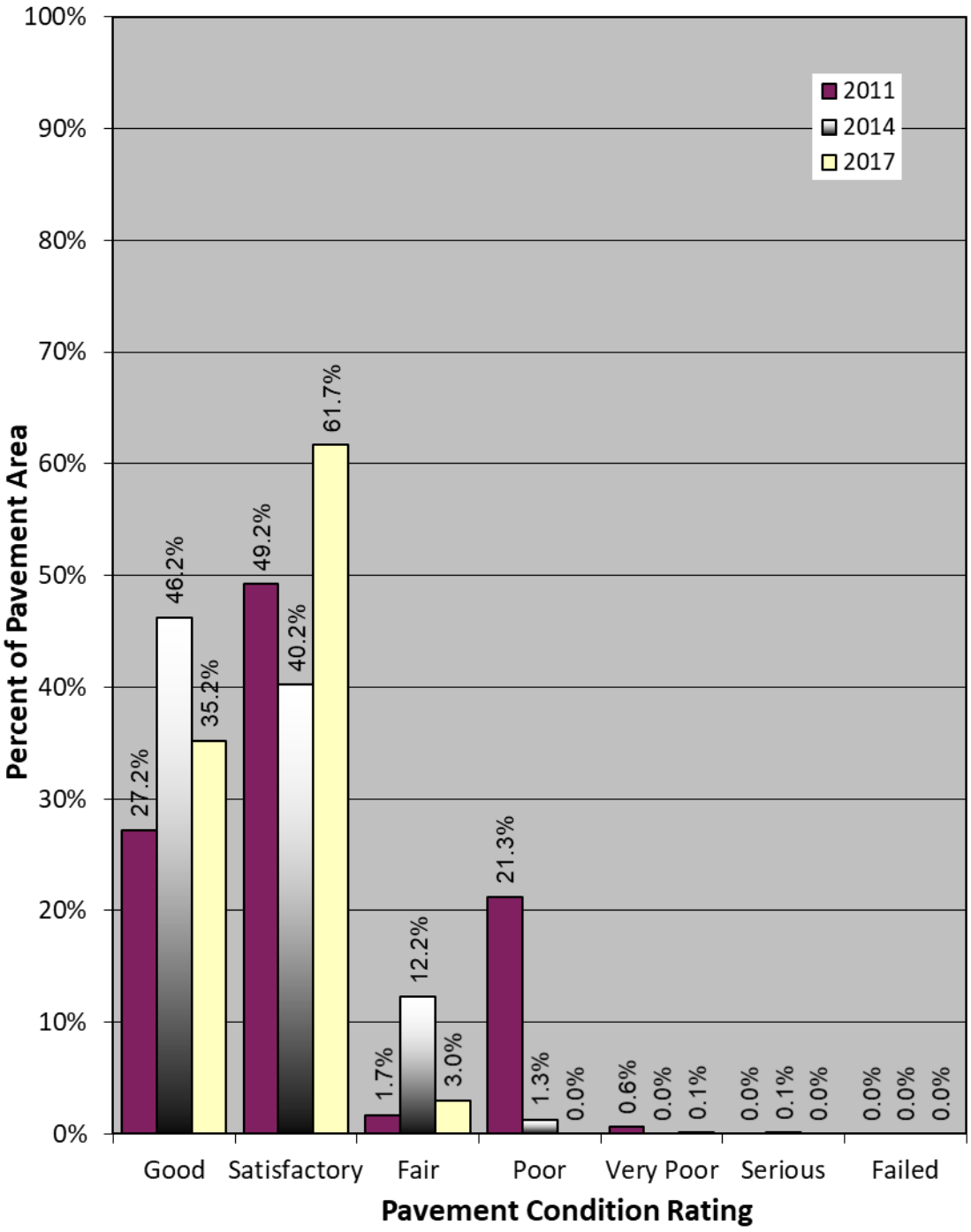
Branch	Section	Inspections			Forecast	
		2011	2014	2017	2022	2027
T09JD	01	79	65	63	55	44
T10JD	01	95	86	77	71	68
T11JD	01	95	85	77	71	68
TA1JD	01	100	93	92	83	75
TA2JD	01	82	87	75	70	67
TA2JD	02	100	100	100	92	82
TA3JD	01	100	100	100	92	82
TA4JD	01	63	62	61	51	41
TA4JD	02	60	60	70	67	64
TA5JD	01	84	73	75	70	67
TA6JD	01	100	85	93	84	76
TAJD	01	100	98	94	85	77
TAJD	02	78	79	79	72	69
TAJD	03	100	90	94	85	77
TBJD	01	100	96	86	78	72
TC1/C2JD	01	96	94	77	71	68

Section PCIs at Grant County Regional Airport/Ogilvie Field range from a low of 39 (a PCR of "Very Poor") to a high of 100 (a PCR of "Good"). The area-weighted average PCI for all airport pavements is 82, corresponding to an overall PCR of "Satisfactory". Figure JD-4 shows how much pavement area is associated with each Pavement Condition Rating category and also shows pavement condition distribution from the inspections conducted in 2011 and 2014.

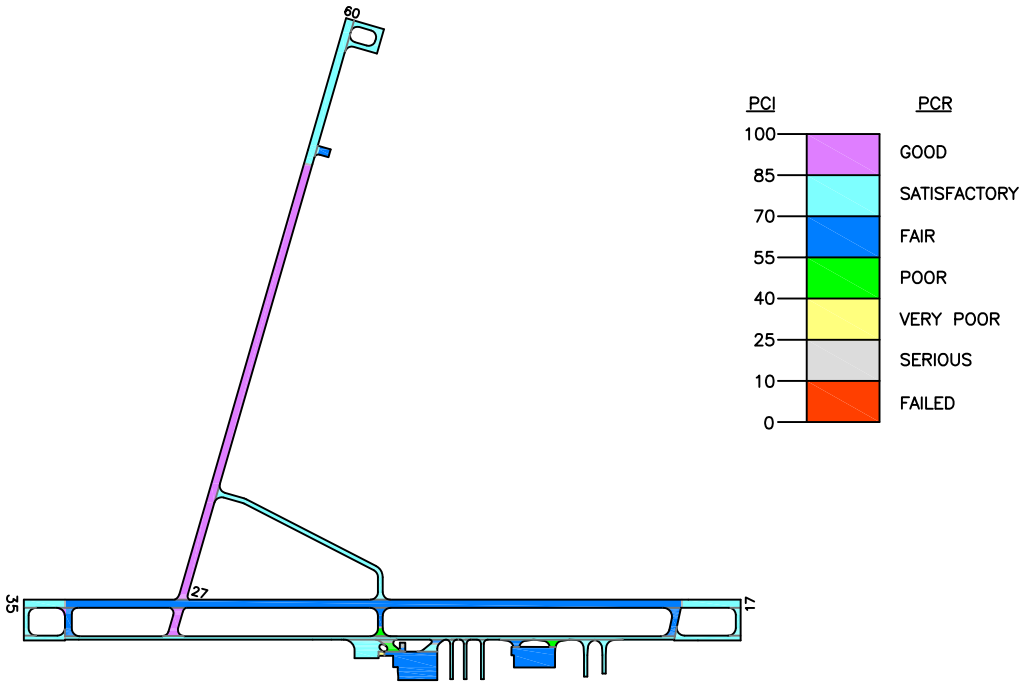
The primary distresses observed in the asphalt concrete pavements during the inspection were: longitudinal and transverse cracking, weathering, patching, alligator cracking and depressions. Shrinkage cracks were observed in the portland cement concrete pavement section.

A graphical representation of the projected PCIs listed in Table 1 is shown in Figure JD-5.

Figure JD-4. Distribution of Pavement Condition
Grant County Regional Airport/Ogilvie Field



Condition in 2022.



Condition in 2027.

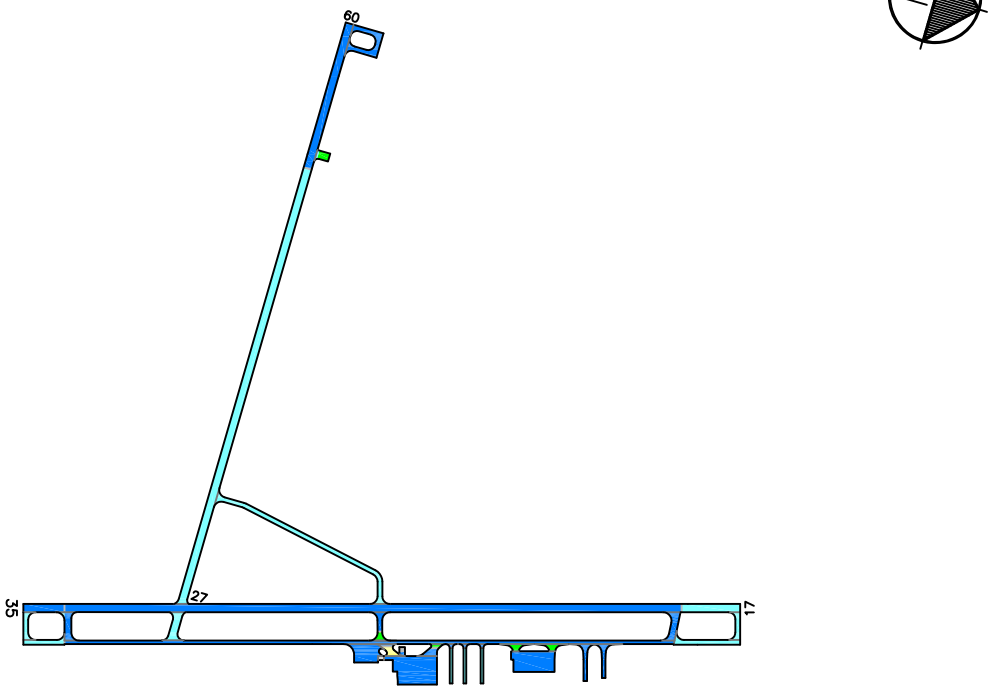


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Figure JD-5. Future Pavement Condition.

RECOMMENDATIONS

Data collected during the visual condition survey were used by the PAVER software to generate the Network Maintenance Report contained in Appendix 3. This report identifies, for each pavement section, the recommended localized maintenance activities (i.e.-crack sealing, patching) that should be completed to repair the defects observed during the visual inspection. The repair quantities identified in the report were extrapolated to cover the entire pavement section, based on the distresses measured in the inspected sample units. If the repair activities identified are completed, the pavement deterioration rate will be slowed.

The recommended localized maintenance activities to be applied are selected by the PAVER software based on a Distress Maintenance Policy established for the Oregon airport system. The report results indicate that, over your entire airport, the following quantities of localized maintenance are needed:

- 17,112 linear feet of asphalt concrete crack sealing
- 154 linear feet of asphalt concrete wide crack repair

The PAVER software can also identify and schedule recommended global (applied over an entire section) maintenance activities such as fog seals, slurry seals and other surface treatments, as well as major rehabilitation activities such as asphalt concrete overlays and complete reconstruction. PAVER schedules global maintenance on a user-defined interval. To schedule major rehabilitation PAVER uses pavement deterioration models developed during this project. These models are used to estimate future pavement condition and to schedule rehabilitation based on a trigger PCI.

During this project a 5-year program outlining recommended global maintenance and rehabilitation was developed. The program begins in the year 2018 to allow time for project development. These recommendations are presented in Table 2, which identifies the pavement section requiring rehabilitation, the year the action should be completed, the type of action, and an associated cost. This information is also presented graphically in Figure JD-6.

Table 2. Five-Year Global Maintenance and Rehabilitation Plan.

Year	Branch	Section	Action	Area (sf)	Unit Cost ($/sf)	Total Cost ($)
2018	A01JD	01	Slurry Seal	26,164	$0.31	$8,111
2018	A01JD	02	2.5" AC over 6" Aggregate Base over 30" Structural Fill	1,290	$15.82	$20,408
2018	A02JD	01	Slurry Seal	65,469	$0.31	$20,295
2018	A03JD	01	Slurry Seal	46,150	$0.31	$14,306
2018	AH09JD	01	Slurry Seal	4,936	$0.31	$1,530

Table 2. Five-Year Global Maintenance and Rehabilitation Plan.

Year	Branch	Section	Action	Area (sf)	Unit Cost ($/sf)	Total Cost ($)
2018	AH09JD	02	Slurry Seal	1,137	$0.31	$352
2018	AHELIJD	02	Slurry Seal	2,039	$0.31	$632
2018	R09JD	01	Slurry Seal	66,000	$0.31	$20,460
2018	T03JD	01	Slurry Seal	1,883	$0.31	$584
2018	T03JD	02	Slurry Seal	5,710	$0.31	$1,770
2018	T04JD	01	Slurry Seal	2,262	$0.31	$701
2018	T04JD	02	Slurry Seal	5,094	$0.31	$1,579
2018	T05JD	01	Slurry Seal	986	$0.31	$306
2018	T05JD	02	Slurry Seal	5,150	$0.31	$1,596
2018	T06JD	01	Slurry Seal	986	$0.31	$306
2018	T06JD	02	Slurry Seal	5,150	$0.31	$1,596
2018	T07JD	01	Slurry Seal	986	$0.31	$306
2018	T07JD	02	Slurry Seal	5,150	$0.31	$1,596
2018	T08JD	01	Slurry Seal	4,563	$0.31	$1,415
2018	T09JD	01	Slurry Seal	4,567	$0.31	$1,416
2018	T10JD	01	Slurry Seal	9,050	$0.31	$2,805
2018	T11JD	01	Slurry Seal	8,526	$0.31	$2,643
2018	TA2JD	01	Slurry Seal	11,470	$0.31	$3,556
2018	TA2JD	02	Slurry Seal	772	$0.31	$239
2018	TA4JD	01	Slurry Seal	3,302	$0.31	$1,024
2018	TA4JD	02	Slurry Seal	5,229	$0.31	$1,621
2018	TA5JD	01	Slurry Seal	12,426	$0.31	$3,852
2018	TAJD	02	Slurry Seal	111,487	$0.31	$34,561
2018	TBJD	01	Slurry Seal	55,841	$0.31	$17,311
2018	TC1/C2JD	01	Slurry Seal	28,446	$0.31	$8,818
					2018 Total	$175,696
2020	TAJD	01	Slurry Seal	11,149	$0.31	$3,456
2020	TAJD	03	Slurry Seal	20,358	$0.31	$6,311
2020	TA1JD	01	Slurry Seal	8,386	$0.31	$2,600
2020	TA6JD	01	Slurry Seal	8,273	$0.31	$2,565
					2020 Total	$14,931
2021	R17JD	01	Slurry Seal	18,000	$0.31	$5,580
2021	R17JD	02	Slurry Seal	270,000	$0.31	$83,700
2021	R17JD	03	Slurry Seal	25,500	$0.31	$7,905
					2021 Total	$97,185
					TOTAL	$287,812

Figure JD-6. Five-Year Pavement Management Plan.
Grant County Regional Airport/Ogilvie Field

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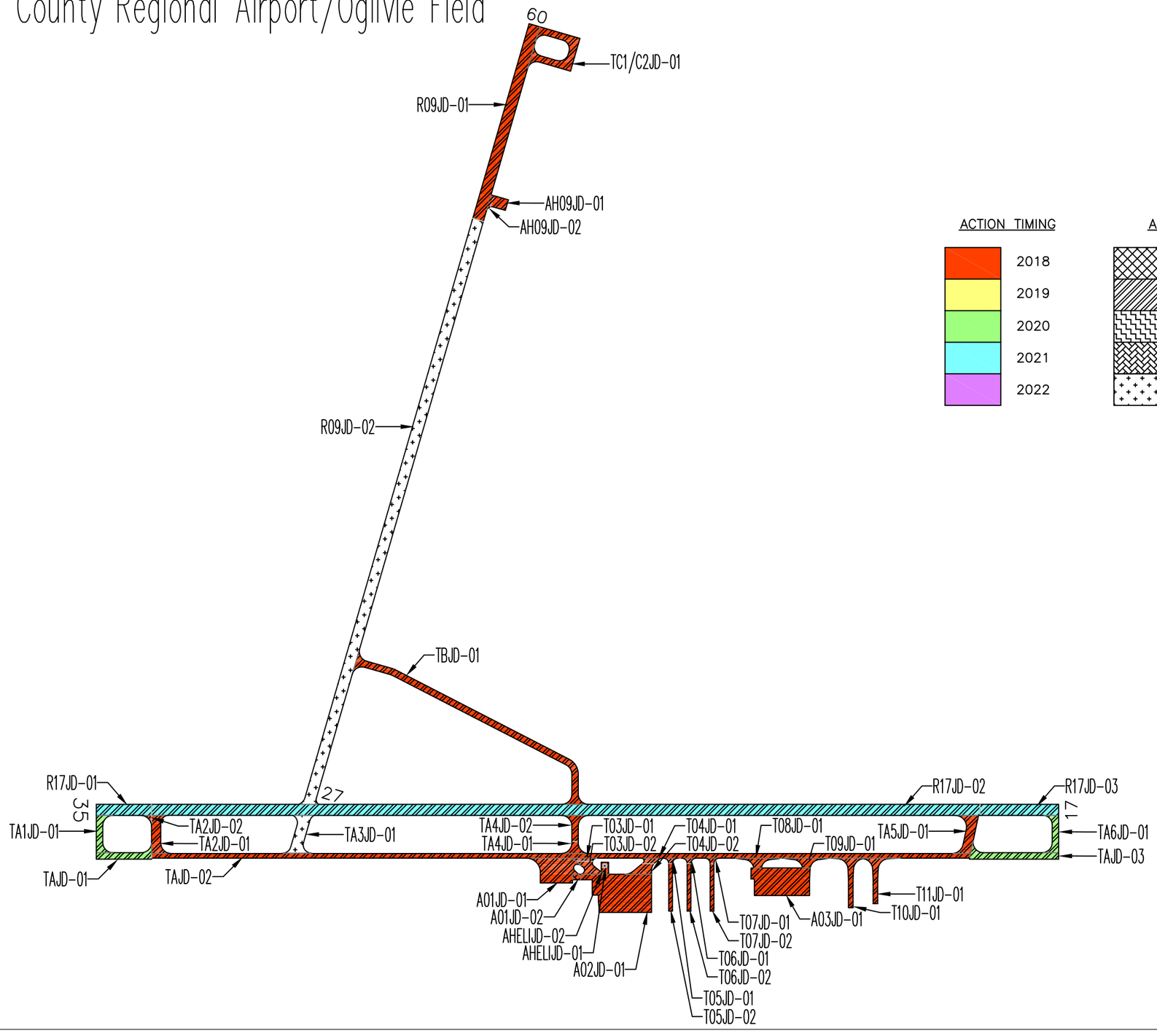

ACTION TIMING

- 2018
- 2019
- 2020
- 2021
- 2022

ACTION

- FOG SEAL
- SLURRY SEAL
- OVERLAY
- RECONSTRUCT
- ROUTINE MAINTENANCE

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If the global maintenance and/or rehabilitation activities recommended in Table 2 are not completed, the localized maintenance activities identified in the Network Maintenance Report (Appendix 3) for that section should be done. Additionally, for those sections not listed in Table 2 as requiring global maintenance or rehabilitation, the localized maintenance activities outlined in the Network Maintenance Report should be completed. By completing the localized maintenance activities, pavement condition is improved, life is extended, deterioration is slowed and the length of time until major repair or rehabilitation is required is increased.

INSPECTION SCHEDULE

To comply with the inspection schedule requirement of FAA Grant Assurance Number 11, a detailed visual inspection should be conducted every 3 years using the methodology described in ASTM D5430. The next scheduled detailed visual inspection should take place in 2020.

In addition, the FAA requires that a drive-by inspection be conducted monthly to detect unforeseen changes in pavement condition. The results of each drive-by inspection should be recorded and kept in a file. At a minimum, the date of the inspection and an indication of any maintenance performed since the last drive-by inspection should be recorded.