

FAC 1111 Fixed-Wing Runway, Surfaced

FY25 SUC: \$3.76 / SY

Source: Inflated from previous FY using ENR labor and material cost indices to measure actual inflation

Original Source: Air Force Civil Engineer Center (AFC EC) study, 2019, which updated the cost associated with airfield pavement maintenance and repair, marking, rubber removal, etc.

Sustainment Unit Cost Factor Computation
Airfield Pavement SUCs
Provided by Air Force Civil Engineer Center (AFCEC)
October 2019

1. Maintenance and repair (M&R) cost from PAVER is based on maintaining a Pavement Condition Index (PCI) of 70 is \$1.92 per square yard (SY) per year. This value was derived using the PAVER 7.0.10 default cost tables and an average deterioration rate of 1.5 points per year for Portland cement concrete and an average deterioration rate of 2.5 points per year for asphaltic concrete.

2. PCI Survey Cost per year:

- a. Cost for PCI surveys at all active duty Air Force and Air Force Reserve bases for all airfield pavements including shoulders (140,389,373 SY) to be inspected every 5 years. Per AFI32-1041, PCI surveys are conducted at minimum every 5 years for main operating bases and auxiliary fields.
 - i. Average cost per SY for PCI Surveys is \$0.160
 - ii. $140,389,373 \text{ SY} / 5 \text{ years} = 28,077,875 \text{ SY per year}$
 - iii. $28,077,875 \text{ SY} * \$0.16 = \$4,492,460 \text{ per year}$
- b. Cost for PCI surveys for all Air National Guard bases
 - i. \$200k per year
- c. Database management, PAVER maintenance and upgrade cost is \$400K per year
- d. Total PCI survey cost factor
 - i. Total cost per year is $\$4,492,460 + \$200,000 + \$400,000 = \$5,092,460$
 - ii. $\$5,092,460 / 28,077,875 \text{ SY} = \$0.18 \text{ per SY per year}$

3. Rubber Removal and Paint Striping Cost per year:

- a. Rubber removal every 2.5 years is \$0.35 per SY per year
- b. Partial marking removal every 2.5 years is \$0.06 per SY per year
- c. Complete marking removal every 10 years is \$0.13 per SY per year
- d. Remarking every 2.5 years is \$0.25 per SY per year
- e. Runway total rubber removal and paint striping cost is \$0.79 per SY per year
- f. Apron and taxiway marking removal and remarking cost is \$0.44 per SY per year

4. Total Cost factors for runways, aprons, and taxiways:

- a. Runways: $\$1.92 + \$0.79 + \$0.18 = \textbf{\$2.89 per SY per year (applies to FAC 1111)}$
- b. Aprons and Taxiways: $\$1.92 + \$0.44 + \$0.18 = \textbf{\$2.54 per SY per year (applies to FACs 1112, 1113, 1121, 1122, 1131, 1161, 1162, 1163, 1164, 1165, and 1167)}$

5. Average Runway Size is 10,000' long by 150' wide.
6. Maintenance and repair costs of airfield pavement (i.e. spall repair, joint/crack sealing) is based on data in PAVER, a consolidated Pavement Condition Index (PCI) database that contains actual cost data from inspections from most Active and Reserve Air Force installations (some data outliers were eliminated)
7. An average runway is designed with 1000' ends of concrete and interior of asphalt. Aprons and Taxiways are a mix of asphalt and concrete. However, actual cost data is used from PAVER that provides an average value that incorporates all pavement types.