

PCASE 2.09.08 Update Summary

2 April 2021

Information regarding PCASE is available on the Tri-Service website, PCASE Page at

<https://transportation.erdcdren.mil/pcase/>

PCASE 2.09.08 Updates:

1. Added the ability to display the F-Factor for a vehicle when calculating asphalt overlays on a rigid pavement
2. Changed the calculation of flex strength for rigid overlays from using the flex strength of the base slab to use the thickness-weighted average flex strength of the overlay and the base slab
3. Changed the equivalent thickness calculation to apply extra thickness to the base and then the subbase instead of just applying it to the subbase
4. Changed the PCN string calculation to show the category code of the controlling layer when the subgrade is not the controlling layer
5. Fixed a bug in the calculation of allowable passes that was causing a zero value to be returned for the base layer in some layer models
6. Made the "Always Save" option on the evaluation form default to on
7. Corrected an error in the hybrid CBR-Beta-Alpha implementation when CBR is between 20 and 30.

PCASE 2.09.07 Updates:

1. Fix for stabilized bases for APE
2. P/C ratio change for gears with different tire sizes e.g. RTCH forklift
3. Alpha-Beta Hybrid
4. Updated precip database for drainage
5. Updated weather database for frost calculations.
6. Fixed sorting error in wesdef report
7. Fixed minimum thickness error in AASHTO calculations.
8. Fixed delete database capability
9. Corrected PCASE website link
10. Fixed error in PCN string in evaluation. Was using wrong layer to get subgrade code.
11. Consolidated PCASE Install and Trouble Shooting documents into a single indexed file
12. Updated compaction reports

PCASE 2.09.06 Updates:

1. Updated surface thickness group number for U2 and CV 22 aircraft.
2. Changed install to place uninstaller in correct location for Windows 10
3. Replaced PCASE ESALS with estimated AASHTO ESALS in the Design module
4. Minimum thicknesses for roads are now calculated using AASHTO ESALS
5. Changed Load Transfer correlation
6. Added an unloaded version of the M988B RTCH Forklift
7. Added the following aircraft
 - a. Boeing 737-7
 - b. Boeing 737-8
 - c. Boeing 737-9t
 - d. Boeing 737-10
 - e. Boeing 787-8
 - f. Boeing 787-9
 - g. Boeing 787-10
8. Updated ACN computations to eliminate crossing curves
9. Updated Reports to eliminate issues and enable users to print reports
10. Added check box to analysis tab of evaluation, to allow switching between CBR alpha and beta criteria. PCASE will remember this setting the next time the program is run

PCASE 2.09.05 Updates:

1. Added 13 new traffic patterns.
2. Corrected error in display of overlays for composite pavements in LEEP
3. Changed CBR value used to select minimum thickness in evaluations when no base layer existed from 100 to 80.
4. Verified Unsurfaced design is not using the CBR beta criteria
5. Added three new vehicles
 - a. Boeing 787-8
 - b. Boeing 787-9
 - c. Boeing 787-10

PCASE2.09.04 Updates

1. Updates the evaluation module to adjust the vehicle load to 75 percent for traffic areas C and D.
2. Updates the evaluation module to allow load transfer to be adjusted from 0 to 25 percent

for rigid road evaluation.

3. Corrects usage of pass to coverage ratios in evaluation.
4. Corrects depth of frost calculation to consider high quality stabilized base.
5. Added one new vehicle; Combi-LIFT SC3T container carrier
6. Corrected names of the following Army standard traffic patterns
 - a. ARMY IV \leq 5000 FT (C-130) to ARMY CLASS IV \leq 5000 FT (C-130)
 - b. ARMY IV \leq 5000 FT (C-17) to ARMY CLASS IV \leq 5000 FT (C-17)
 - c. ARMY IV $>$ 5000 FT AND $<$ 9000 FT to
ARMY CLASS IV $>$ 5000 FT AND $<$ 9000 FT
 - d. ARMY IV $>$ 9000 FT to
ARMY CLASS IV $>$ 9000 FT
 - e. ARMY V to ARMY CLASS V

PCASE2.09.03 Updates

1. Eliminated runtime error in view alternatives
2. Corrected column heading in report for design of PCC Shoulder to read "K" instead of "CBR".
3. Renamed Equivalent Single Wheel Load (ESWL) to Equivalent Single Axle Load (ESAL)
4. Fixed Heavy and Modified Heavy Standard Traffic Patterns to match UFC.
5. Made corrections to the surface thickness and base layer thickness tables.
6. Added permission instructions for Office 2010 Added permission instructions for Office 2013
7. Fixed error causing duplication of tires in the vehicle editor. Corrected load for C17A to 585,000 from 580,000
8. Modified evaluation results to show overlays if pavement ACN/PCN ratio $>$ 1
9. Made corrections to the calculations for the estimated depth to bedrock for asphalt pavements
10. Fixed error in reading KUAB FWD file.
11. Added ability to read GPS data from FWD file and LAT and LONG in data table
12. Default slip for stabilized base in rigid LED changed to zero to match UFC.
13. Added message to show when either asphalt or base thickness is less than the minimum.
14. Modified reports to show controlling vehicle and passes for mixed traffic designs
15. Fixed display error in LEEP evaluation with evidence of frost.

16. Fixed error in evaluation of unsurfaced pavements.

17. Added 50 new vehicles

- a. AASHTO AML
- b. AASHTO H15- 44
- c. AASHTO H20-44
- d. AASHTO HS15-44
- e. AASHTO HS20-44
- f. AASHTO HS25-44
- g. AASHTO P5
- h. AASHTO P7
- i. AASHTO P9
- j. AASHTO P11
- k. AASHTO P13
- l. ATLAS 6000 LB CARRIAGE LOADED
- m. ATLAS 6000 LB CARRIAGE UNLOADED
- n. ATLAS 10000 LB CARRIAGE LOADED
- o. ATLAS 10000 LB CARRIAGE UNLOADED
- p. C-146A Wolfhound
- q. C-160 TRANSALL
- r. DROTT 650A1 C
- s. TRAVELIFT CRANE
- t. FAA DUAL TAN-100
- u. FAA DUAL TAN-150
- v. FAA DUAL TAN-200
- w. FAA DUAL TAN-300
- x. FAA DUAL TAN-400
- y. FAA DUAL WHL-10
- z. FAA DUAL WHL-20
- aa. FAA DUAL WHL-30
- bb. FAA DUAL WHL-45
- cc. FAA DUAL WHL-50

- dd. FAA DUAL WHL-60
- ee. FAA DUAL WHL-75
- ff. FAA DUAL WHL-100
- gg. FAA DUAL WHL-150
- hh. FAA DUAL WHL-200
- ii. FAA SNGL WHL-3
- jj. FAA SNGL WHL-5
- kk. FAA SNGL WHL-10
- ll. FAA SNGL WHL-12.5
- mm. FAA SNGL WHL-15
- nn. FAA SNGL WHL-20
- oo. FAA SNGL WHL-30
- pp. FAA SNGL WHL-45
- qq. FAA SNGL WHL-60
- rr. FAA SNGL WHL-75
- ss. FAA SWL-50
- tt. MJ 100 TRAVELIFT CRANE
- uu. MJ 750 D TRAVELIFT CRANE
- vv. NASA INTER TANK ON KAMAG
- ww. NASA LH2 TANK ON 4
SPMTS
- xx. NASA LOX TANK ON 4 SPMTS
TE
- yy. TRANSPORT ERECTOR