

<p>Name of Test Asphalt Pavement Analyzer</p>	<p>Developer(s) Lai and Co-workers Georgia DOT</p>
<p>Test Method(s) AASHTO T 340-10 (2019)</p>	<p>Adoption by Agencies Alaska, Alabama, Arkansas, North Carolina, New Jersey, South Carolina, South Dakota, Virginia</p>
<p>Description The asphalt pavement analyzer (APA) is a second-generation device that was originally developed as the Georgia Loaded Wheel Tester. The APA tracks a loaded wheel back and forth across a pressurized linear hose over an asphalt mixture sample. A temperature chamber is used to control the test temperature. Rut depths along the wheel path are measured for each wheel pass. The sample is typically loaded for 8,000 wheel passes.</p>	<p>Photographs/Illustrations</p> 
<p>Test Results Rut depths</p>	<p>Test Temperature(s) Selected based on the high temperature binder grade</p>
<p>Equipment & Approximate Cost Asphalt Pavement Analyzer or APA Jr.</p>	<p>\$60,000 - 125,000</p>
<p>Specimen Fabrication Gyratory specimens (most common) or slab specimen</p>	<p>Number of Replicate Specimens Between 4 and 6 specimens – model dependent</p>
<p>Specimen Conditioning Conditioning for 6 to 24 hours at the test temperature</p>	<p>Testing Time 2.25 hours</p>
<p>Data Analysis Complexity Simple</p>	<p>Test Variability Medium (20% COV)</p>
<p>Field Validations Good (pavement sections on FHWA ALF, WesTrack, NCAT Test Track, MnROAD, and in Georgia and Nevada)</p>	<p>Overall Practicality for Mix Design and QA Good for mix design Fair for QA</p>
<p>Key References</p> <ul style="list-style-type: none"> Lai, J.S. (1986). "Development of a Simplified Test Method to Predict Rutting Characteristics of Asphalt Mixes," Final Report, Research Project No. 8503, Georgia DOT. Cooley, L.A., Kandhal, P.S., Buchanan, M.S., Fee, F., and Epps, A. (2000). "Loaded Wheel Testers in the United States: State of the Practice," NCAT Report No. 2000-4, Auburn, AL. Kandhal, P.S., and Cooley, L.A. (2003). "Accelerated Laboratory Rutting Tests: Evaluation of the Asphalt Pavement Analyzer," NCHRP Report 508, Washington, D.C. West, R., Timm, D., Willis, R., Powell, B., Tran, N., Watson, D., Sakhaeifar, M., Brown, R., Robbins, M., Nordbeck, A.V. and Villacorta, F.L. (2012). "Phase IV NCAT Pavement Test Track Findings," NCAT Report 12-10, Auburn, AL. 	