

EVALUATION OF PAVEMENT SMOOTHNESS

(An Arizona Method)

SCOPE

1. This test method describes the procedure for determining the smoothness of pavements using Inertial Profiling Systems (IPS). Profile measurements are taken on designated area(s) of the pavement and shall be obtained in each wheelpath. When testing shoulders for PCCP in Subsection 401-4.02, a single sensor path shall be operated within the center of the shoulder.

The contractor shall ensure that the pavement to be tested can be driven safely. Testing will not be performed on any portions that cannot be made safe or practical for testing.

APPARATUS

2. The IPS shall have a sensor path spacing between 60 and 72 inches, and shall be centered within the travel lanes. The operator and profile equipment shall be certified every three years in accordance with the recommendations of AASHTO R 56. Reciprocity from other state certification programs that meet AASHTO R 56 requirement may be allowed.

METHOD OF MEASURING

3. Profile measurements will be obtained in accordance with AASHTO R 54. Profiler equipment will be operated in accordance with AASHTO R 57. Profile measurements are analyzed and reported as International Roughness Index (IRI) values, inches per mile (in/mi) in compliance with AASHTO R 54.

CALCULATIONS

4. The IRI measured in each wheel path will be averaged and will result in the Mean Ride Index (MRI) in accordance with AASHTO R 54.

REPORT

5. A report will be prepared showing:
 - (a) The date of test.
 - (b) The name of the test operator(s).
 - (c) Identification of test vehicle.
 - (d) Speed of test vehicle during testing.
 - (e) Project number, if applicable.
 - (f) The individual MRI value recorded to the nearest 0.1 in/mi for each 0.1 lane-mile increment (Actual Smoothness Value "AS").
 - (g) The location of each 0.1 lane-mile increment for the corresponding individual MRI value.