

Colorado Procedure 74-21

Standard Practice for

Operating Inertial Profilers and Evaluating Pavement Profiles

(This procedure modifies AASHTO R 57-14. The AASHTO R 57-14 is to be used in conjunction with this procedure.)

1. SCOPE

1.1 This test method describes the procedures for operating and verifying the calibration of a profiler. This method also describes the evaluation procedures for the profiles that are generated to determine payment adjustments.

1.2 **This test method is identical to AASHTO R 57 with the following exceptions.**

2. REFERENCED DOCUMENTS

Add the following to Section 2:

2.4 *Colorado Procedures:*

CP 78 Certification of High-Speed Profilers.

5. EQUIPMENT

Delete Subsections 5.1, 5.3.1.1 and 5.3.1.1.1 and replace each with the following:

5.1 The inertial profiler shall meet the equipment requirements of CP 78. The inertial profiler shall be currently certified per CP 78.

5.3.1.1. Distance Calibration

5.3.1.1.1. The distance calibration shall be 1056 feet long and shall be on a relatively flat, straight section of pavement.

Add the following to Section 5:

5.4 The operator of the profiling equipment shall have a Current CDOT Profiler Operator Certification. The operator must be the driver of the vehicle and operate the data collection system. |

6. TEST PROCEDURE

Delete Steps 4 & 6 of Table 1 and replace with the following:

Step 4. Collect measurements in the direction of traffic. A lane will be tested at least one run. A lane may be retested only if the triggering system fails. The Contractor shall use automated triggering for the start and stop locations, and for the areas to be excluded. The locations of the triggers shall be painted on the pavement so that the Contractor can use the same trigger locations when the final profile is completed or when retesting is required. Triggers for starting and stopping a profile and the locations of exclusions shall be collected automatically during the test and may not be added before or after the collection of the profile. GPS triggering shall not be allowed for smoothness acceptance of data collection.

Step 6. Within 24 hours after each profile is collected, the Contractor shall submit the data electronically along with a Smoothness Acceptance Data Submittal form to the Department at DOT_Profiles@state.co.us and the Project Engineer.

Add the following to Section 6:

6.1.1 The names of the files shall be in the following format:

PPPPP_HHHHHH_DDDDD_LLL_MMM_TTT

Where:

P - is the 5 digit Contract IDs, formally known as the project subaccount number

H - is the highway number. Example I-25, SH-287, or US-40.

D - is the official highway direction, not the apparent direction of travel. Odd highway numbers are north and south, and even highway number is east and west.

L - is the lane number.

M - is additional information to identify the lane. This is useful if a lane is tested in sections to identify each section.

T - is an "initial" or "final" test.

6.1.2 Files submitted not following the above file naming convention may be rejected and require retesting if the location of the run cannot be determined.

6.1.3 Files shall be submitted using the PPF file format and the profiler's native file format and shall indicate locations of exclusions. The ERD file format is not acceptable. CCP Unit may request data formats not listed above.

6.1.4 Initial and Final runs shall have the same file name other than the initial or final designation.

6.5 A Smoothness Acceptance Data Submittal form shall be submitted with the electronic data to the Project. A minimum of one data submittal form per day shall be submitted. The data submittal form shall contain the following for each run:

- Project Number
- Project Code (Contract ID)
- Region
- Profiler Certification Identification Number
- Profiler Operator's name
- Highway number
- Pavement type (PCCP or HMA)
- Smoothness Category
- Date Runs were performed on; designate runs as "Initial" or "Final"
- Contact information and signature of CDOT representative on-site during the performance of HSP runs
- Location and description of 1056 LF Distance Calibration site
- Ambient temperature on-site at the start and end of HSP runs
- Lane number (Lanes are numbered from the left to the right in the direction of travel)
- Direction of travel
- File names
- Run Number (1st, 2nd or 3rd)
- Time each run was completed
- Location of exclusions (In miles from the beginning of the test)
- Description of each trigger.

A Smoothness Acceptance Data Submittal form is attached at the end of this procedure. An electronic copy of the Smoothness Acceptance Data Submittal form in MS Excel or .pdf format may be obtained by e-mail. dot_profiles@state.co.us.

8. DATA ANALYSIS

8.1 The Department will analyze the data with the profiler manufacturer's software or the the latest version of ProVAL.

