

# AASHTO Subcommittee on Materials

## Technical Section 5a Pavement Measurement Technologies

Webinar  
2 pm EST, March 13, 2014

### Mid-Year Meeting Minutes

- I. Call to Order/Opening Remarks/General Business
  - A. Call to Order –2 pm – Mullis, OR
  
- II. Roster
  - A. Introduction of members and guests
    - i. Voting members present 12, total members present 15, and total present 37. (quorum = members present at TS meeting) TS 5a has 20 voting members.
  - B. Prospective new members and changes in membership
    - i. Cole Mullis, Oregon DOT is Chair, Andy Mergenmeier, FHWA, is Vice Chair and is the FHWA voting member
    - ii. Any new members – none requested; Friends of Committee (can include industry and academia) – request Chair to become Friend of Committee and reason why.
  - C. Standard Stewards (Appendix C)
  
- III. Approve August 2013 Technical Section annual meeting minutes:
  - Motion by – NY
  - Vote for -all
  - Second by - MI
  - Vote against - none
  
- IV. Old Business

#### A. 2013 SOM Ballot Items (Nov-Dec 2013)

Ballot Name:	SOM 2013 Ballot
<b>Ballot Number</b>	
<b>Item Number</b>	<b>92</b>
Ballot Start Date:	11/15/2013
Ballot Due Date:	12/20/2013
Item Description	SOM ballot item to approve revised M 328, Standard Equipment Specification for Inertial Profiler. See pages 19 - 29 of the minutes.
<b>Affirmative 45/52. Negative 0/52. No Vote 7/52</b>	
Virginia Department of Transportation (Charles A. Babish) (andy.babish@vdot.virginia.gov)	Revisions seem warranted, but philosophically opposed to AASHTO serving as steward to a "prescriptive spec" that defines a profiler. The community as a whole would be better served by handing this responsibility over to the manufacturing industry that produces profilers "let them police themselves". ASTM E950 (ASTM's Inertial Profiler Standard) is currently under revision and will be vastly improved when it re-emerges looking more like the AASHTO suite of smoothness standards, particularly M 328. Please don't misunderstand M 328 represents great work by

	<p>highly qualified and capable people! it is the best standard available. It just belongs somewhere else. Full disclosure: this VDOT reviewer is Chair of ASTM E-17, Committee on Vehicle-Pavement Systems.</p> <p><b>Response: No action required – will monitor ASTM activities</b></p>
<p>Illinois Department of Transportation (David L. Lippert) (david.lippert@illinois.gov)</p>	<p>Section 4.1.1 Line 2, revise "and software, that working together, perform" to read "and software that work together to perform".</p> <p>Section 4.1.2 Line 1, change "minimum" to "minimal":</p> <p>Section 10.7 Should be renumbered to 10.6.</p> <p><b>Response: editorial changes made.</b></p>
<p>Rhode Island Department of Transportation (Mark E Felag) (mfelag@dot.ri.gov)</p>	<p>Section 2.1.20 - Remove the comma after the word 'distance'. "(i.e., distance,)" <b>Response: editorial change made.</b></p> <p>Notes should be referenced in the standard.</p> <p>Throughout the specification 'should' has been changed to 'shall'. In specification writing 'shall' is used to refer to an action to be taken by the contractor and "will" by the owner or agency. This should be reviewed since 'shall' is used in many instances where 'will' should be used or maybe left as 'should' when describing equipment. <b>Response: No action required</b></p>
<p>Florida Department of Transportation (Timothy J. Ruelke) (timothy.ruelke@dot.myflorida.com)</p>	<p><i>3.1.8 International Roughness Index (IRI)</i> - a statistic used to determine the amount of roughness in a measured longitudinal profile. The IRI is computed from a single longitudinal profile using a quarter-car simulation <u>at 50 mph (80 km/hr)</u> as described in the paper . . .</p> <p><u>Comment:</u> It may be important to specify the IRI is developed for a speed of 50 mph (80 km/hr)</p> <p><b>Response: changed section 3.1.8 to include 50 mph as suggested, but do not include 80 km/h in parenthesis as M328 lists quantities only in U S Customary units As IRI is defined in R54, R56, and R57, this change was made to the IRI definition in these standards too.</b></p> <p>4.4. Calibration - Recommend merging the verbiage in 4.4 with sub-section 5.3.4.2 Calibration</p> <p><b>Response: no change, section 4 is general discussion, 5.3 is specific details</b></p> <p>5.1 <i>General Requirements</i> - Recommend deleting "General Requirements" as this is the title for Section 4.</p> <p><b>Response: no change</b></p> <p>Section 5.2 Note 3 Recommend adding: require extending the suggested temperature and humidity limits." The Operating humidity in some states like Florida may be greater than 90 percent (non-condensing).</p> <p><b>Response: changed Note 3 to indicate, Local environmental conditions may require extending the suggested temperature and humidity limits.</b></p> <p>Section 5.2.6.2 Note 4 Recommend changing the word "required" to "recommended" to be consistent with the R56 Spec.</p> <p><b>Response: changed last sentence in Note 4 to indicate, Certification testing on surfaces with the same texture type expected in the final application is recommended</b></p> <p>Section 5.2.6.3 Recommend replacing: "The frequency response . . . of the test vehicle." with "The frequency response . . . must</p>

	<p>be commensurate with those required of the height sensor."  <b>Response: No change. The current wording is correct.</b></p> <p>Section 5.3 Recommend adding: "Direct data entry and triggering".  <b>Response: No change. The provided recommendation is not understood.</b></p> <p>Section 5.3.4.1: Recommend changing to read: "The equipment shall contain provision to accept at least 16 variables  <b>Response: changed "The equipment shall contain provisions to accept up to 16 variables...." to "The equipment shall contain provisions to accept at least 16 variables..."</b></p> <p>7. PROFILER ACCURACY AND PRECISION  <u>Comment:</u> Recommend adding "AND PRECISION" to the title of Section 7  <b>Response: changed section 7 title to: Profiler Precision and Bias</b></p>
<b>Negative 0/52</b>	
<b>Item Number</b>	<b>93</b>
Description	SOM ballot item to approve R 56, Certification of Inertial Profiling Systems. See pages 30 - 42 of the minutes.
<b>Affirmative 44/52. Negative 1/52. No Vote 7/52</b>	
<p>Virginia Department of Transportation (Charles A. Babish) (andy.babish@vdot.virginia.gov)</p>	<p>On note 1 (page 34), Virginia has seen good repeatability for our open graded porous friction course. Virginia would recommend clarifying or deleting the reference to open graded surface mixes in this note. Also recommend or specify what could be the alternate profiling system for coarse surface texture.  <b>Response: No change. The mix designs used for open graded surface mixes can vary from state to state, and good repeatability in VA does not necessarily mean good repeatability in mixes used in other states. Therefore, we do not recommend any changes. The philosophy used in the development of these standards is that these are performance based specifications, and therefore a specific profiling system for collecting data on coarse textured surfaces should not be recommend.</b></p> <p>Section 6.1 - Recommend combining third and fourth sentence as the block check and bounce test both reference Section 5.3.2.3 of AASHTO R 57.  <b>Response: editorial change made</b></p> <p>Section 8.2.2. Reference Profiles - a "recommended" device doesn't project much confidence in our "ground truth" here. The statement regarding rolling profilers "...that collect data at 1-inch intervals are acceptable..." may also confuse the user into thinking that the 1-inch interval is sufficient to make it an acceptable reference. <b>Response: Changed "Rolling profilers that can typically collect data at 1-inch intervals are acceptable to obtain the reference elevation profile" to "A reference device that can collect data at a 1-inch interval or less is recommended for collecting the reference profiles."</b></p> <p>Sections 8.3.1.2 and 8.3.1.3 Repeatability and Accuracy states that a lower agreement score may be acceptable for medium rough section with IRI greater than 150 in/mi, which is not used to evaluate profilers that collect data for QC/QA and acceptance. What would an "acceptable" agreement score be? Also Lower agreement requirements do not sound correct for rougher sections, but hasn't our experience been that it's easier to cross-correlate to rougher profiles than to exceptionally smooth ones? Not sure what to do about it, but wonder whether allowing lower agreement scores is actually accomplishing anything.  <b>Response: A recommendation on a lower agreement score</b></p>

	<p><b>for repeatability and accuracy for sections having an IRI greater than 150 in/mi cannot be made at this time because of a lack of data. Additional research is needed to come up with a score.</b></p>
<p>New Hampshire Department of Transportation (Alan D. Rawson) (arawson@dot.state.nh.us)</p>	<p>Agree with the overall changes and especially section 8.2.1 that defines that an Owner-Agency may elect to perform testing only on the smooth section for a profiler that is used for Qc/Qa testing. No need to subject a testing vehicle over rough sections for no reason. <b>Response: No action required</b></p>
<p>Illinois Department of Transportation (David L. Lippert) (david.lippert@illinois.gov)</p>	<p>Delete section number for section 5.1.1. <b>Response: editorial change made</b></p>
<p>Rhode Island Department of Transportation (Mark E Felag) (mfelag@dot.ri.gov)</p>	<p>Notes should be referenced in the standard. <b>Response: no action required.</b></p> <p>Throughout the specification 'should' has been changed to 'shall'. In specification writing 'shall' is used to refer to an action to be taken by the contractor and 'will' by the owner or agency. This should be reviewed since 'shall' is used in many instances where 'will' should be used or maybe left as 'should' when describing equipment. <b>Response: no action required.</b></p>
<p><b>Negative 1/52</b></p>	
<p>Florida Department of Transportation (Timothy J. Ruelke) (<a href="mailto:timothy.ruelke@dot.myflorida.com">timothy.ruelke@dot.myflorida.com</a>) <b>Based on the responses/changes – FL rescinded the negative</b></p>	<p>Section 8.2.2 - It is recommended that a reference profiling device that can meet the repeatability and accuracy criterion for measuring IRI that is specified in the Benchmark Test Evaluation Report (Karamihas, 2011) be used to collect the reference profile data. <u>Comments:</u> 1. Recommend to state the repeatability and accuracy criterion (i.e. 0.98) in addition to referencing the study. <b>Response: Concur with the FDOT response and note 2 was modified to state in the second sentence that “The average repeatability value and the average accuracy value for the three runs should be at least 0.98 . . . . ”</b> 2. The most recent results from the 2013 Reference Profiler Benchmark Evaluation show the candidate reference devices did not meet the IRI accuracy cross correlation criterion on any of the 8 surfaces tested and the IRI repeatability cross correlation criterion was met on some surfaces and only in some cases. <b>Response: Note 2 indicates “The average repeatability value for the three runs should be at least 0.98 for the reference data to be acceptable if the index of interest is the IRI”. This was changed to: “It is recommended that the average repeatability value for the three runs should be at least 0.98 for the reference data to be acceptable if the index of interest is the IRI”. This change gives the flexibility for the states to revise the repeatability criterion if needed.</b> 3. Results from a recent FDOT profiler precision and accuracy study show the 0.98 IRI cross correlation criterion is too stringent using today’s latest technology. <b>Response: See comment above for item 2: The change made provides agencies the flexibility to revise the repeatability criterion if needed.</b></p> <p>8.3.1.2 Equipment Repeatability - For IRI, experience has shown that on pavements with IRI values less than 150 in./mi, an agreement score of 0.92 or greater is required on all traces to provide IRI values within 5 percent with a 95 percent confidence level. <u>Comment:</u> Based on a recent FDOT study, the IRI repeatability agreement score of 0.92 was exceeded on the medium-smooth dense graded asphalt surface. However, it could not be attained on dense graded smooth and rough asphalt surfaces, and open-graded asphalt surfaces (regardless of smoothness). The level of</p>

	<p>agreement required is too stringent and challenging to profilers with single point lasers.  <b>Response: no change, keep it as is: "For IRI, experience has shown that on pavements with IRI values less than 150 in./mi, an agreement score of 0.92 or greater is required on all traces to provide IRI values within 5 percent with a 95 percent confidence level"</b></p> <p>8.3.1.3 Equipment Accuracy - "Evaluate accuracy using cross-correlation of the appropriate filtered output as described in Section 8.3.1.4. On each trace, cross- correlate each of the ten profiles to the reference profile. The accuracy agreement score for each trace is the average of the ten individual cross- correlation values. Based on the same rationale as in Section 8.3.1.2, a score of 0.90 or greater is required for the equipment to pass the accuracy requirement</p> <p><u>Comment:</u> Based on a recent FDOT study, the IRI repeatability agreement score of 0.90 could not be attained on any of the six asphalt sections tested consisting of dense and open-graded asphalt texture, with smooth, medium smooth, and rough surfaces. The IRI cross correlation accuracy with the Surpro ranged from 0.64 to 0.88. The level of agreement required herein is too stringent and challenging to profilers with single point lasers.  <b>Response: Response: make following change: "Based on the same rationale as in Section 8.3.1.2, a score of 0.90 or greater is required for the equipment to pass the accuracy requirement required on all traces to provide IRI values within 5 percent with a 95 percent confidence level."</b></p> <p>General Comments:  2. REFERENCED DOCUMENTS  2.2 ASTM Standards - ASTM E950, Measuring the Longitudinal Profile of Traversed Surfaces</p> <p><u>Comment:</u> Recommend to include E950 in the list of referenced documents.  <b>Response: the document is not included in the standard, thus it is not appropriate to include in section 2. It was added to section 10.</b></p> <p>Note 1 (Section 8.2.1): The sentence "however the minimum length of the test section shall be 528 ft" is redundant and should be deleted since it is already stated at the beginning of the paragraph. <b>Response: No change. This sentence is applicable if an index other than the IRI is used.</b></p> <p>Section 6.1 Recommend replacing "Section 5.3.2.3 of AASHTO R 57" with "Section 5.3.2.3.1 of AASHTO R 57" and "Section 5.3.2.3 of AASHTO R 57" with "Section 5.3.2.3.2" of AASHTO R 57".  <b>Response: Editorial change made.</b></p> <p>Section 8.4.1. Recommend changing the minimum section length from 1000 ft to 528 ft to read as follows: "The test section shall be at least 528 ft in length, . . . <b>Response: No change.</b></p>
<b>Item Number</b>	<b>94</b>
Description	SOM ballot item to approve revised R 57, Operating Inertial Profilers and Evaluating Pavement Profiles. See pages 43 - 52 of the minutes.
<b>Affirmative 44/52. Negative 1/52. No Vote 7/52</b>	
Florida Department of Transportation (Timothy J. Ruelke) (timothy.ruelke@dot.myflorida.com)	<p>Section 5.1 (Note 1) Recommend replacing the word "wheels" with "tires" to read: "maintain air pressure in the <u>tires</u> of the host vehicle". (Section 5.3.1.1.2 also uses "wheels", Section 5.3.2.2.2 uses "tire". <b>Response: changed term to "tires"</b></p> <p>Section 5.3.1.1.1 Recommend adding "with sufficient lead-in distance for the vehicle to attain a constant speed before the start of the test section <u>and a safe stopping distance.</u>" to be consistent</p>

	<p>with Section 8.2.1 of R56-10. <b>Response: change made</b></p> <p>Section 5.3.1.2.2 - Ensure "As a minimum, test ... and both a 1-in and a 2-in gauge block." is inconsistent with Section 5.3.42 in M328-10 which specifies to perform verification on 4 blocks as a minimum. <b>Response: No change. M328 indicates software must be provided that is able to do a verification using at least 4 blocks. Section 5.3.1.2.2 indicates at a minimum to test using a 1 inch and a 2 inch block.</b></p> <p>Section 5.3.2.2.1. - Ensure "Perform the longitudinal verification of at least 528 ft in length." is inconsistent with R56-10 (Section 8.4.1) which specifies 1000 ft as a minimum distance for DMI accuracy measurement. <b>Response: No change. R56 addresses calibration of DMI while R57 addresses verification of the DMI.</b></p> <p>Section 5.3.2.2.4 - Recommend specifying the number of attempts in the following sentence "Failure to meet the specified tolerance, after _____ attempts to adjust have been performed, will require recalibration and " <b>Response: The number of attempts can vary with the test conditions, type of adjustments that are made to correct any equipment problems etc. Hence, it is not possible to provide a definitive number of attempts to include in the standard. The agency can use their discretion on the number of attempts that are allowed.</b></p> <p>Section 5.3.2.3.1 Recommend moving the sentence "The owner of the profiler must furnish their own base plate and gauge blocks. The average thickness shall be marked on each gauge block." to Section 5.3.1.2.2. <b>Response: No change.</b></p> <p>Section 5.3.2.3.1 Recommend specifying the number of repeats in the following sentence: "Repeat this calculation _____ times for each gauge block." <b>Response: No change. Repeating the calculation as mentioned in the standard is for different blocks.</b></p> <p>Table 1. Recommend replacing the term "pre-section" in Step 3 with "lead-in". <b>Response: change made</b></p>
<b>Negative 1/52</b>	
<p>Montana Department of Transportation (Matthew R Strizich) (<a href="mailto:mstrizich@mt.gov">mstrizich@mt.gov</a>) <b>Based on the response – MT rescinded their negative</b></p>	<p>Section 5.3.2.3.2 and 5.3.2.4.1 The provisions require the Proval software to be used. Some vendors have their own software that serves the same function. <b>Response: In section 5.3.2.3.2 changed "The profiles shall then be saved and analyzed using the ProVAL software's Ride Statistics Continuous analysis with a 528 ft base length for each profile collected." to "The profiles shall then be saved and analyzed using the latest version of ProVAL software to compute the continuous IRI with a 528 ft base length for each profile collected". This change is made to reflect the changes that have been made to the ProVAL software. Using ProVAL, which is a third party software, to perform the analysis described in Section 5.3.2.3.2 and 5.3.2.4.1 provides a higher degree of confidence than using the vendor data to ensure that the equipment is functioning properly – <u>recommend finding negative non-persuasive.</u></b></p>
<b>Item Number</b>	<b>95</b>
Description	SOM ballot item to approve revised R 54, Pavement Ride Quality When Measured Using Inertial Profiling Systems. See pages 53-61 of the minutes.
<b>Affirmative 45/52. Negative 0/52. No Vote 7/52</b>	

<p>Virginia Department of Transportation (Charles A. Babish) (andy.babish@vdot.virginia.gov)</p>	<p>In Terminology - "line laser" is defined here, but no other smoothness/profiling standards? Should it not be discussed anywhere the texture type potentially becomes an important parameter? <b>Response: Agree with the comment and the definition from R54 was added to M328 and R56. Note 4 in M328 and Note 1 in R56 added "When profiling pavements with rough macro texture, a height sensor with a large footprint is needed. A line laser that utilizes a bridging algorithm is an example of a sensor with a large footprint. The consequence of not using a large footprint sensor may be an upward bias in the IRI as measured by an IPS with a single-point (dot) conventional point laser. An IPS with a single-point laser can also collect inaccurate data on longitudinally tined, longitudinally grooved, or diamond ground pavements. A line laser that utilizes a bridging algorithm is recommended for such pavements."</b></p> <p>-----</p> <p>Note 2 - The language is similar to Note 1 in R56 but for verification versus certification. In addition, this note recommends use of line laser. Could the language be changed to what is in Note 1 (R56) with the addition of recommending a line laser? <b>Response: No Change</b></p>
<p><b>Negative 0/52</b></p>	
<p><b>Item Number</b></p>	<p><b>96</b></p>
<p>Description</p>	<p>Concurrent ballot item to approve revised T 279, Accelerated Polishing of Aggregates Using the British Wheel. See page 13 of the minutes.</p>
<p><b>Affirmative 46/52. Negative 0/52. No Vote 6/52.</b></p>	
<p><b>Negative 0/52</b></p>	
<p><b>Item Number</b></p>	<p><b>97</b></p>
<p>Description</p>	<p>Concurrent ballot item to approve revised PP 67, Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods. See pages 62 - 68 of the minutes.</p>
<p><b>Affirmative 45/52. Negative 1/52. No Vote 6/52.</b></p>	
<p>Florida Department of Transportation (Timothy J. Ruelke) (timothy.ruelke@dot.myflorida.com)</p>	<p>Section 3.8/3.14: Longitudinal Cracks are -10 to +10 degrees in reference to the lane center line; Transverse Cracks are 80 to 100 degrees in reference to the lane center line. There is no definition for cracks located between 10 to 80 degrees in reference to the lane centerline (Is the definition left to an agency's discretion?) <b>Response: the cracks in question are called pattern cracks.</b></p> <p>Section 3.6 is inconsistent with Section 3.2 of PP68-10 <b>Response: made PP 68 consistent with PP 67</b></p> <p>Section 3.7 inside wheelpath " add "left" to read: "a longitudinal strip toward the left adjacent lane."; if one is in the center of 3 lanes, "toward the adjacent lane" may mean either the inside or outside wheelpath depending if it the right or left adjacent lane. <b>Response: under assessment</b></p> <p>Section 3.10 Outside Wheelpath " add "outside" or "right" to read: "toward the outside shoulder" in order not to have someone assume the "inside" shoulder. <b>Response: under assessment</b></p> <p>Section 6.4.1 is inconsistent with Section 5.3.1 of PP68-10 in term of percent of cracks. <b>Response: made PP 67 consistent with PP 68</b></p> <p>Section 8.2 Recommend clarifying the severity categories as described in Section 6.4.1 and 6.4.2. <b>Response: under assessment</b></p>

<b>Negative 1/52</b>	
California Department of Transportation (phil j stolarski) (phil_stolarski@dot.ca.gov)	No comment – <b>Response: negative is found non-persuasive</b>
<b>Item Number</b>	<b>98</b>
Description	Concurrent ballot item to approve revised PP 68,Collecting Images of Pavement Surfaces for Distress Detection. See pages 69 - 74 of the minutes.
<b>Affirmative 45/52. Negative 1/52. No Vote 6/52.</b>	
Illinois Department of Transportation (David L. Lippert) (david.lippert@illinois.gov)	Section 5.3.2 Line 3, correct spelling of "contains" to "contains". <b>Response: editing change made</b>
Rhode Island Department of Transportation (Mark E Felag) (mfelag@dot.ri.gov)	Section 3.4 - The revised word 'representation' is spelled wrong. Should this be 'representation'? <b>Response: editing change made</b>
Florida Department of Transportation (Timothy J. Ruelke) (timothy.ruelke@dot.myflorida.com)	Section 3.2 Need to ensure consistency in the definition of crack width between this Section and Section 3.6 of PP67-10. <b>Response: made PP 68 consistent with PP 67</b>
	Section 3.4 misspelling of "representation". <b>Response: editing change made</b>
	Section 5.3.1 Ensure consistency with Section 6.4.1 of PP67-10 in terms of percent cracks (those under 3 mm and those between 3 and 5 mm). <b>Response: made PP 67 consistent with PP 68</b>
	Section 5.3.2 - Recommend replacing this Section with Section 6.4.4 of PP67 for better clarity. <b>Response: made PP 67 consistent with PP 68</b>
Section 6.1 - Recommend explaining the term "first shoulder side". <b>Response: under assessment</b>	
<b>Negative 1/52</b>	
California Department of Transportation (phil j stolarski) (phil_stolarski@dot.ca.gov)	No comment – <b>Response: negative is found non-persuasive</b>
<b>Item Number</b>	<b>99</b>
Description	Concurrent ballot item to approve revised PP 69 Determining Pavement Deformation Parameters and Cross-Slope from Collected Transverse Profiles. See pages 75 - 80 of the minutes.
<b>Affirmative 46/52. Negative 0/52. No Vote 6/52.</b>	
New York State Department of Transportation (Robert A Burnett) (bburnett@dot.state.ny.us)	In Section 3.7 (Pg 77) - The rut definition identifies rut length to be at least 30m (100 ft) is too long and will tend to miss rutting at intersections. <b>Response: under assessment</b>
Rhode Island Department of Transportation (Mark E Felag) (mfelag@dot.ri.gov)	Section 6.5.1 - Last word in the section is spelled 'pionts', it should be 'points'. <b>Response: editing change made</b>
Florida Department of Transportation (Timothy J. Ruelke) (timothy.ruelke@dot.myflorida.com)	Section 3.2 - Add "inside" to read "inside adjacent lane" <b>Response: under assessment</b>
	Section 3.5 - Add "outside" to read "outside shoulder" <b>Response: under assessment</b>
<b>Negative 0/52</b>	
<b>Item Number</b>	<b>100</b>
Description	Concurrent ballot item to approve revised PP 70, Collecting the Transverse Pavement Profile. See pages 81 - 86 of the minutes.
<b>Affirmative 46/52. Negative 0/52. No Vote 6/52.</b>	
<b>Negative 0/52</b>	

## B. Technical Section letter ballot

- i. 2013 TS Ballot Items October-November 2013: Recommended reconfirming 3 standards, R 40, R 48, and R 55 with no changes. All passed with no negatives and no comments provided. Voting on each item was 14 affirmative out of 20 members with 6 non-voting members.

C. Task Force Reports - none

V. New Business

- A. AMRL/CCRL Issues – FWD annual meeting is set for October in Baltimore – will include ½ day workshop on back calculation.
- B. Research - NCHRP– Submit any proposals to Curt Turgeon, MN, TS 5a Research Coordinator. Any proposed NCHRP – International or Domestic Scans, NCHRP problem statements, NCHRP Synthesis Studies and 20-7 projects?
- C. Correspondence, calls, meetings/ Presentation by Industry – none
- D. Proposed New Standards – none
- E. Proposed New Task Forces – Robin Tallon, Penn State Transportation Institute, Presentation on Quality Control and Assurance for Friction Measurement Devices and Operators. Planning to survey agencies. Comments from TS 5a included should assess existing Ohio and Texas facilities.
- F. Standards Requiring Reconfirmation – None
- G. SOM Ballot Items (including any ASTM changes)
  1. Planning for TS and then SOM ballot to move TP 76 to full standard with a few changes.

- VI. VI. Other Items: Pooled Fund Project related to PP67, PP 68, PP 69, and PP 70: TPF-5(299) Improving the Quality of Pavement Surface Distress and Transverse Profile Data Collection and Analysis, kick off meeting is planned for May 2014. If interested in participating in project, contact your Research Director to submit your commitment letters – web address:  
<http://www.pooledfund.org/Details/Study/543>

VII. Adjourn –  
Conclusion at 3 pm

Appendixes

- A- Agenda (no separate agenda it is part of the minutes, so no appendix A for 2014 mid-year Tech Section 5a meeting minutes)
- B- Attendance Roster
- C- Standards
- D- Ballot Items

Attendees  
 TS 5a Web Meeting  
 March13, 2014

Last Name	First Name	Affiliation	Email Address (if known)
Bertucci	Phillip	New Jersey Department of Transportation	<a href="mailto:Philip.Bertucci@dot.state.nj.us">Philip.Bertucci@dot.state.nj.us</a>
Brooke	Tim	ASTM International	<a href="mailto:Tbrooke@astm.org">Tbrooke@astm.org</a>
Bukowski	John	FHWA	<a href="mailto:John.Bukowski@dot.gov">John.Bukowski@dot.gov</a>
Burnett	Bob	New York State Department of Transportation	<a href="mailto:Bob.Burnett@dot.ny.gov">Bob.Burnett@dot.ny.gov</a>
Charoenpap	Richie	Louisiana Department of Transportation	
Chen	Dar Hao	Texas Department of Transportation	<a href="mailto:DarHao.Chen@txdot.gov">DarHao.Chen@txdot.gov</a>
Choubane	Bouzid	Florida DOT	<a href="mailto:Bouzid.Choubane@dot.state.fl.us">Bouzid.Choubane@dot.state.fl.us</a>
Cowsert	Jack	North Carolina DOT	<a href="mailto:jcowsert@ncdot.gov">jcowsert@ncdot.gov</a>
Dabbs	Russell	AASHTO	<a href="mailto:rdabbs@ashto.org">rdabbs@ashto.org</a>
Felag	Mark	Rhode Island Department of Transportation	<a href="mailto:Mark.felag@dot.ri.gov">Mark.felag@dot.ri.gov</a>
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	A	B	C	F	G	H	I
1	<b>AASHTO MATERIALS TECHNICAL SECTION 5A, PAVEMENT MEASUREMENT TECHNOLOGIES Appendix C</b>						
2							
3	<b>AASHTO DESIGNATION</b>	<b>STANDARD TITLE</b>	<b>STANDARD STEWARDS</b>				
4							
5	M 261-96 (2009) (E 501-94 (2000))	Standard Tire for Pavement Frictional-Property Tests	TX, AL				
6	M 286-96 (2009) (E 524-88 (2000))	Smooth-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests	TX, LA				
7	T 242-96 (2009)(E 274-97)	Frictional Properties of Paved Surfaces Using a Full-Scale Tire	NY, AL				
8	T 256-01 (2011)	Pavement Deflection Measurements	NY, AMRL				
9	T 278-90(2007)(E 303-93(2003))	Surface Frictional Properties Using the British Pendulum Tester	WV, MD				
10	T 279-96 (2010) (D 3319-90)	Accelerated Polishing of Aggregates Using the British Wheel	WV, MI				
11	T 282-01(2010) (E 556-95(2000))	Calibrating a Wheel Force or Torque Transducer Using a Calibration Platform (User Level)	MN, TX, MI				
12	T 317-04 (2009)	Prediction of Asphalt-Bound Pavement Layer Temperatures	NY, ON, FHWA (Weaver)				
13	R 20-99 (2012)	Procedures for Measuring Highway Noise	TX, FHWA (Adam Alexander)				
14	R 32-09	Calibrating the Load Cell and Deflection Sensors for a Falling Weight Deflectometer	TX, NM				
15	R 33-03 (2008)	Calibrating the Reference Load Cell Used for Reference Calibrations for Falling Weight Deflectometer	TX, TN				
16	R40-10	Measuring Pavement Profile Using a Rod and Level	MS, FHWA (Springer)				
17	R41-05 (2010)	Measuring Pavement Profile Using a Dipstick	FHWA (Springer), MS				
18	R 43M/R 43-07	Quantifying Roughness of Pavements	FL, FHWA (Orthmeyer), AL				
19	R 48-08	Determining Rut Depth in Pavements	OR, MD				
20	R 36-12	Evaluating Faulting of Concrete Pavements	WA, Ontario, FHWA (Orthmeyer)				
21	R 37-04 (2009)	Application of Ground Penetrating Radar (GPR) to Highways	FL, FHWA (Yu), TX				
22	R 55-10	Quantifying Cracks in Asphalt Pavement Surface	MD, TX, OR				
23	R 56-10	Certification of Inertial Profiling Systems	WV, FHWA (Springer), TX				
24	R 57-10	Operating Inertial Profilers and Evaluating Pavement Profiles	WV, FHWA (Springer), TX				
25	R 54-10	Pavement Ride Quality When Measured Using Inertial Profiling Systems	WA, FHWA (Swanlund), TX				
26	M 328-10	Standard Equipment Specification for Inertial Profiler	TN, FHWA (Springer)				
27	MP14-08	Smoothness of Pavement in Weigh-in-Motion (WIM) Systems	FHWA (Moravec), TX				
28	TP 28-94 (2001)	Detection of Voids Under Rigid Pavement	Terminated				
29	TP 76-08	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method	MN, TX				
30	PP 70-10	Collecting the Transverse Pavement Profile	AL, OR				
31	PP 69-10	Determining Pavement Deformation Parameters and Cross-Slope from Collected Transverse Profiles	AL, MS				
32	PP 68-10	Collecting Images of Pavement Surfaces for Distress Detection	MD, MS				
33	PP 67-10	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods	MD, MS				
34	TP98-11	Determining the Influence of Road Surfaces on Vehicle Noise using the Statistical Isolated Pass-by (SIP) Method	FHWA (Orthmeyer), AZ				
35	TP99-11	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM)	FHWA (Orthmeyer), CO				