

**Improving HMA Committee, MS Teams/Bullfrog Hybrid – October 31, 2024
Meeting Minutes**

Present	Name	Company	Present	Name	Company	Present	Name	Company
X	Anderson, Taj	Poe	X	Durrani, Akmal	WSDOT	X	Pedroza, Jared	CalPortland
X	Anderson, Cooper	Am. Rock		Fishel, Greg	Miles		Phillips, Scott	WSDOT
X	Beier, Spencer	WSDOT	X	Gent, Dave	WAPA	X	Schofield, Dave	CWA
X	Bender, Riley	WSDOT	X	Hill, Kentin	Granite	X	Schofield, Kim	WAPA
X	Benson, Ed	Interstate C&A	X	Huang, Shin-Che	FHWA	X	Schultz, Brett	Miles
	Cantrell, Logan	Granite	X	Johnson, Torrey	Tucci & Sons		Swearingen, Shawn	Inland
X	Carlie, Karen	WSDOT	X	Kull, Spencer	CalPortland	X	Terrill, Keith	Road Science
	Chapman, Josh	Granite	X	McLaughlin Sean	WSDOT	X	Waligorski, Kevin	WSDOT
X	Christensen, Chirs	AAR Testing	X	Methwin, Dave	Central Pre-Mix	X	Webster, Garrett	WSDOT
X	Clayton, E. J.	Granite	X	Nimeri, Mohamed	WSDOT	X	Williams, Chris	ICON
X	Crouse, Jeff	Lakeside	X	Pederson, Chris	CTL	X	Winger, Leon	WSDOT
X	Davis, Steve	WSDOT						

OLD BUSINESS Roll call/Introductions: Jhony Habbouche (Asphalt Institute), Laura Nelson (Lakeside)

17-02 How can we cost-effectively increase the service life of HMA Pavements?

Note: This section has been rolled up see 4/13/23 minutes for previous notes.

- Nov 3, 2022: No changes to 2023 Standard Specifications. WSDOT will be reviewing HMA data for 2021 and 2022 to assess if any further changes warranted. Any future proposed specifications changes will be brought to the improving HMA group for further discussion.
- April 13, 2023: Steve Davis has been analyzing mix data with the changes that have been implemented. So far not seeing the % binder increasing. Are seeing the fines increasing. Will put together a smaller workgroup to review data.
- October 19, 2023: The modifications to the compaction and job mix specs have been fully implemented for a couple seasons now. While compaction improvements have been realized the mixture results are not trending as hoped for. Steve Davis reviewed data from the past 5 seasons with averages staying mostly flat for ½" & 3/8" mixes in VMA, Pb, D/A, and P200. One significant note is the D/A is averaging at or above the AASHTO M323 recommended range of 0.6 to 1.2 for fine graded mixtures for both ½" and 3/8" mixtures. Per FHWA recommendation WSDOT considering reducing D/A requirements from 0.6-1.6 (9-03.8(2)) to 0.6 to 1.2 and is considering adding to the Job Mix Compliance Price Adjustment for production testing. Putting a team together to look at spec's for trial. Kim taking volunteers.

Some discussion on Balanced Mix Design. Steve noted we do some performance testing during the mix design phase but not during production. NAPA notes WSDOT as pre-implementation although WSDOT does verification testing for rutting with Hamburg & Indirect Tensile. Attending a BMD peer exchange next month. Also, FHWA will be here presenting a 2-day session in May 2024 for those interested that may be a segue in WSDOT transition to more BMD.

- March 28, 2024 – Mix Design Subcommittee met 2/29/24. Reviewed meeting notes.
- October 31, 2024 – Since this effort was tied to the Compaction and VMA changes that have been implemented I propose we close this line item out and start any new recommendations on separate lines, for example the adjustments to the D/A and BMD.

To summarize this item we implemented the following changes:

- Increased compaction spec limit from 91% to 92% and bumped bonuses.
- Added VMA to Job Mix Compliance Price Adjustment and reduced VMA Tolerance limits for mix design and acceptance

- Raised the low end tolerance on the JMF for Binder Tolerance from -0.5% to -0.4%
- GSP - Allowed the #8 and #200 screens to go beyond the control point in production provided it's within the tolerance limit from the JMF (capped at 8% on the #200)

This item will be removed from the next agenda.

14-16 Concerns with SAM

- October 31, 2019 – Dave Gent,
 - October Construction Manual update: Dyer
 - Prepave meeting – discuss process of notifying mixture and compaction results
 - Prepave meeting – timely results needed to keep track of CPF
 - Inspector roles and responsibilities – OK to provide unofficial results at time of testing
 - Data on timeliness of data entry: Kurt Williams
- June 9, 2020 - The lab has pulled data from SAM regarding the time to post test data in SAM and has shared the data with the regions. In general the turnaround times are good for compaction and mix. Mineral Aggregate tests tend to lag behind. Contractors should contact the Project Office if this issue continues.
- November 5, 2020: We did have instances of untimely SAM data entry this season primarily tracked to one area. While this doesn't appear to be a systemic issue it does warrant continued effort. WSDOT is proposing pull SAM data entry reports annually and submit to region management.
 - Granite pointed out some project they had issues with Timely SAM Data entry, Timely Challenges, Timely Min Agg data entry, and accuracy of Challenges.
 - Requesting time limit for Min Agg, and Min Agg samples run per mix design and not combined together (is this a new topic?).
 - Dave Schofield noted need to check accuracy of data entry and calculations and communication.
- April 29, 2021 – Kurt Williams pulled the SAM entry data and is being reported to the region construction engineers. Continues to be a focus and was discussed at the WAPA Joint training and Construction Engineer meetings. COVID telework certainly didn't help the issue, will continue to monitor. Contractors brought up question about testers double checking data prior to entering into the system. Always a best practice to double check not only data entry, but also that SAM is using the correct spec version.
- October 28, 2021 – This is an ongoing issue and will continue to be with staffing shortages and turnover. WSDOT will continue to pull SAM data entry data annually and provide to the regions and timely and accurate data entry will continue to be reinforced during trainings. Inconsistencies with compaction subplot sizes was pointed out. Should we consider adding language allowing irregular areas (intersections, turn lanes, etc.) not completed during the main paving operation to be broken out into a separate lot with varying subplot sizes?
- April 28, 2022 – SAM data discussed at WAPA/WSDOT Joint Training held 3/3/2022. Team brought up looking at adding a maximum timeframe for SAM Data? (example - can't get below 1.0 if not entered into SAM within 7 days?) including min. agg. Also mentioned to CN manual language emphasizing timely and accurate data entry. (This is already covered in the CM chapter 5-04.1, 5-04.2, 5-04.3(9)B3, and 5-04.3(10)C, reference note from 10/31/19). Original test data on retests? The original test data is accessible if the contractor requests.
- November 3, 2022 – Accurate and timely data continues to be problematic on smaller paving projects where paving may be done before getting data and jobs with GEC or consultant testers. An example of a project where resistance to sharing test data was noted. Sharing unofficial test results is addressed in the Construction Manual GEN 5-04.2 Inspector Roles and Responsibilities.

- April 13, 2023 – This topic was emphasized at the WAPA/WSDOT joint training and at 2 WSDOT Documentation trainings with 200 plus attendees.
- October 19, 2023: This is an ongoing internal issue. Continues to be problematic particularly with GEC's and Design Build. Steve noted WSDOT looking at separate training or inclusion into current WSDOT training for GEC's on material documentation including SAM data. WAPA volunteered to help.
- March 28, 2024: Some discussion in the Joint Training first of March. Covered in the internal Materials Quality Assurance Training held 3/20/24. Update on external training? Idea to expand certification to not only gauge operation and test procedure, but also review specification, construction manual, SAM/MATS
- [October 31, 2024:](#)

19-09 Is WSDOT cooling the pavement adequately before taking cores?

- October 31, 2019 - Dave Gent – Is a change to the coring test procedure needed to address this? A couple of ideas that came up included modifying **SOP 734** to require the use of ice if coring the same day, or maybe require the contractor to acquire the cores. Bob and Kurt will review with regions.
- June 9, 2020 - Procedure discussed with Region IAI's. Appears to be more related to education than a problem with the test procedure. This has been addressed and WAPA has been asked to bring problems forward if they occur.
- November 5, 2020 – This issue was brought up on at least one occasion this year. Should the responsibility for taking cores be transferred to the Contractor? Dave Gent to review the idea of contractor coring with other WAPA members, Joe DeVol/Kurt Williams to review idea with Region Materials Engineers.
- April 29, 2021: Update on cores. Joe DeVol - There's a push for contractor provided coring but some resistance in areas of WSDOT. Leon brought up a scenario where the contractor releases the mat for coring, and the contractor takes care of the icing if they feel it's needed.
- October 28, 2021 – WSDOT is resistant to modifying coring test procedures. There are standard items for contractor coring of bridges and roadway in the specifications that can be included in contracts or change ordered in if requested and accepted.
- April 28, 2022 – Coring multiple lift paving too early. Issue potential on fish passage work particularly. (Possibility - Require waiting 24 hours minimum to core multi-lift paving?) Random sampling concern – coring multiple lifts at same time. What challenges are we having out in the field?
- November 3, 2022 – A question was raised about the use of liquid nitrogen. It is allowed in the testing procedures, has anyone used it and if so how much was used? Brief Discussion that the use of nitrogen is allowed by the test procedure, but no one at the meeting was aware of it being used.
- April 13, 2023: Discussion was focused around projects with multiple paving lifts paved in the same day (fish passage type projects). Options could be to require cores the following day (would require modification to spec or test procedure, see entry from April 2022), use gauge correlated to the same mix on another job if available, or investigate possibility of the RDM.
- October 19, 2023: The test procedures allow use of ice. Up to the qualified tester to determine need. There is a shift to more contractor provided cores in some areas. WAPA has a specific request to restrict coring of multi-lift pavement sections (more than 4") to 24 hours after paving.
- March 28, 2024: Discussed at Compaction Subcommittee meeting held 3/1/24. WSDOT putting together language to modify 5-04.03(10)C2 to require coring for multi lift paving to be done the following day/shift.
- [October 31, 2024: The Olympic Region is interested in using Liquid Nitrogen in their coring operations. Also, 5-04.3\(1\)C2 of the 2024 book was revised to read: "HMA cores shall be taken prior to opening to traffic the same day that mix is placed except acceptance cores for multi-lift paving with total depths](#)

exceeding 0.35' paved in the same day shall be taken the following day, or as approved by the Engineer to allow for cooling of the pavement. Multi-lift paving may be opened to traffic prior to HMA Coring."

21-03 RAP Reset Update

- April 29, 2021 - Joe DeVol: Data will be sent out as soon as it's finalized. This may lead to new spec changes...Stay tuned.
- October 28, 2021 – Steve Davis to provide update. Steve Davis to set up a presentation with Adam Hand to go over RAP Reset study. Discuss potential changes resulting from this study at the next meeting.
- April 28, 2022 – Adam Hand presented findings at meeting on 4/7/2022 (see attachment), how will this information be used moving forward? Look into getting a new RAP Reset subcommittee together. (Higher RAP, RAP Reset modifications, Green HMA)
- November 3, 2022 – Logan Cantrell – Proposing bumping RAP to 50% and to get the ball rolling on a RAP Reset subcommittee to see how we can expand the use of RAP. Logan volunteered to do a trial very high RAP project. Dave Gent noted it would be good to stay ahead of the climate initiative wave which is pushing for higher use of recycled materials. Currently only 2 contractors using the existing high RAP any RAS specifications.
- April 13, 2023: Considerations include requiring RAP in mix designs on any RAP project, reviewing how RAP will affect EPD's, would like to get a better measure of how much RAP is being used. Plan to put together a RAP Reset Subcommittee to review adjustments.
- October 19, 2023: Need to put **subcommittee** together to review. WSDOT is open to high rap MD's if requested by contractor. Other associated topics include requiring RAP in the MD process for all RAP mixes, not just high RAP. Increasing the use of RAP in base mixes. Review the use of RAP for EPD's. How to acquire RAP samples when the RAP is coming of the job being repaved. Are there ways to simplify the RAP MD process. Using BMD principles to evaluate RAP mixes.
- March 28, 2024: RAP Reset Subcommittee met 3/7/24, see attached notes. WSDOT open to high RAP mixes but there are noted hinderances. Also interest in including RAP in the MD process for all projects using RAP although noted challenges in that as well. WSDOT working on 9-02.1(4) "Performance Graded (PG) Asphalt Binder" changes to better define the specification regarding blended binder in High RAP/RAS mix designs.
- [October 31, 2024: How to include RAP in the MD process, may be better for the RAP Reset subcommittee this winter.](#)

21-05 Alternative Compaction Testing Methods

- October 28, 2021 – A question has been raised concerning different density testing methods such as electro-magnetic, Rolling Density Meter. A question also raised about using Method A in AASHTO T355. There are reliability concerns with the electro-magnetic test and the T355 Method A test so those are not going to be used. Kim would like to pilot RDM for bridge compaction as a possible alternative to bridge deck coring. Kim has applied for a State Transportation Innovation Council (STIC) grant.
- April 28, 2022 – Update on STIC grant for RDM on bridge decks. Have a list of projects, will be coordinating testing with the paving schedules. Update results in the fall meeting. Calibrating RDM with gyratory pucks and compare with cores.
- November 3, 2022 –WSDOT did collect data from 2022 and are evaluating. Plan to collect more data in 2023. Logan Cantrell noted they had done some testing with the RDM and identified issues with calibrating the RDM to the cores.
- April 13, 2023: Karen Carlie reported WSDOT is still gathering data. Looking at bridge decks.

- October 19, 2023: Karen noted there was some preliminary data on bridge decks that looked encouraging with RDM. Logan noted they had also used RDM on a couple of miles of paving with some success. There is lots of work on this nationally although feds not currently behind it.
- March 28, 2024: This was not a topic on the compaction subcommittee, any news on this topic? Can we remove until further notice? Based in testing it's ok for QC but not ready for QA.
- [October 31, 2024: Non-nuclear options not working out to date. This topic will be removed from the list and added back if/when viable alternative options become available.](#)

21-06 Indirect Tensile Strength Requirement

- October 28, 2021 – Request by Kentin to eliminate IDT until IdealCT implemented. Has there been any failures from IDT? Steve Davis noted the IDT is a test run that is counter to the Hamburg to ensure the mix is not too stiff. Verification compared back to the design. Need to keep this test. A question was raised about increasing the spec when different binder grade mixes are tested.
- April 28, 2022 – Steve noted IDT test will remain in place while research is being performed by WSU to determine appropriate limits for IDEAL CT. Update aging process based on results, expected in about a year. For IDT Logan noted need different IDT number depending on binder grade.
- November 3, 2022 – Update on the WSU study which is another year out from completion. An IdealCT spec will not be ready for at least a couple of years.
- April 13, 2023: Steve Davis noted cores just sent over to WSU yesterday. WSU's work is planned to be complete end of June with paper to follow. May see spec update about 1.5 years later.
- October 19, 2023: Steve to give update. Report coming out soon, how do we take the information and use in a way that works for our setup? Looking at putting together a **subgroup** in January '24. Logan has some aging data on IDEAL CT and will send over. Kim to follow up with Steve on the subgroup.
- March 28, 2024: This was discussed in the Mix Design Subcommittee. Steve to give an update on the WSU study. WSDOT materials starting to run some IDEAL-CT testing on MD Samples to start comparing data.
- [October 31, 2024: Steve Davis to update progress. Running parallel testing, have completed 30 to date with another 20 in the works. Working on settling on a protocol and getting the methodology streamlined and worked out to achieve more consistent repeatability.](#)

22-02 HMA Mix Design Approval Process Subcommittee

- November 3, 2022 – Assembling a subcommittee to look at possible updates to WSDOT Standard Practice for HMA Mix Designs QC 8 or the Standard Spec's to address concerns with HMA mix design approval time frames taking longer than expected and address changes to process with DPS budget. Initial meeting was 11/2/22, follow up meeting 1/19/22.
- April 13, 2023 – Draft language in QC8 establishing a "Replacement QPL Mix Design" item allowing submittal 6 months prior to expiration. See **Attachment 22-02a**. Also draft language in '24 book allowing a 30 day extension of expiring mix design if CPF 1.0 or above and as approved by the Engineer in SS 5-04.2(1). See Attachment **Draft 2024 Spec Changes**. – Contractors would like to begin using "replacement mix design" process now while manual is awaiting update, Lab noted they should be able to make this happen. Torrey Johnson asked about extending MD approval to 36 months with good CPF's rather than the current 24 month. Shin Che noted FHWA would have concerns with this. WSDOT is not considering extending beyond 24 months at this time.
- October 19, 2023: Process adjustments have been made to allow more flexibility to the contractors. Heavy period is April/May timeframe, best to schedule around that if possible. Also, a best practice to hit the drop-off dates for aggregates to keep the process moving on schedule. Improvements have been made on the up-front administrative process. Scott Phillips emphasized importance of marking

aggregate bags clearly and accurately, ensuring submittals are complete and accurate, ASA's are up to date, and be sure to cc email him when setting up agreements. Steve also noted that if contractors are on a contract with working days being charged be sure to cc the PE when communicating with the lab.

- March 28, 2024: Discussed in Subcommittee. Changes that have been implemented are resulting in improvements. Kim sent out a WAPA Mix Design Memo 1/18/24 (attached) detailing common errors and omissions that derail the MD process.
- [October 31, 2024: This year went pretty well, some behind the scenes issues on billing that are being worked out. This topic will be removed from the next agenda.](#)

22-04 Auto Samplers at HMA Plants AASHTO R97

- November 3, 2022 – The question surrounds where in the setup an auto sampler may be used. The current WSDOT FOP for AASHTO R97 notes “A mechanical sampling device installed between the discharge of the silo and the truck transport that is approved by the Regional Materials Engineer.” There was discussion about this in 2016. Some plants have samplers prior to the silo's, there are concerns with tracking the mix representing that sample in those cases. WSDOT is open to more discussion on this topic with the primary concern of being able to track what was tested to placement in the field, particularly on plants with silo's.
- April 13, 2023: WSDOT to consider requests to use auto samplers prior to the silos on plants with smaller silos. FHWA is recommending sampling at the project site. – Future topic to review FHWA comments on WSDOT spec's 5/12/23.
- October 19, 2023: As noted previously FHWA is pushing to test further in the process rather than sooner. Idaho has switched to sampling behind the paver. Steve noted WSDOT will work with subcommittee to look at potential trials. Several team members noted they were against.
- March 28, 2024: Any Updates? Remove for future meetings?
- [October 31, 2024: This topic to be removed from the next agenda.](#)

22-05 Density Accuracy

- November 3, 2022 – Logan brings up a couple of things on accuracy. One topic is that he's noting more often than not the agency test is testing low theorizing an unlevel surface or rock propping the gauge up. Recommends switching to Method A of 2 1-minute tests under AASHTO T 355 (currently not recognized by WSDOT. Also, would like ability to retest high shots, 100 plus. And proposing an adjustment to 5-04.3(10)C4 which limits retest request to noon the day following the subplot test result provided or made available and only allowed when the lot is running below 1.0. Proposing to remove the timing requirement allowing retest requests when the lot falls below 1.0 if at a later time. Method A was the old procedure, WSDOT worked with Troxler to change to the current procedure which is more accurate. Could be some training to ensure gauges are not rocking or sweep prior to initiating the test. WSDOT will touch bases with WAQTC training. WSDOT will also review the current specifications for coring low tests in lots at or above 1.0 and will look at how to handle very high test results.
- April 13, 2023: Continued discussion on the 1 four-minute test vs. 2 one-minute tests at 90 degrees (this was discussed in FHWA review of WSDOT specs 5/12/23). Also requests to allow retest of sublots exceeding 100% and allowing retests on low sublots when CPA for lot is 1.0 or above.
- October 19, 2023: Based on latest FHWA spec review recommendations and to address concerns with DBB and DB contracts WSDOT is looking at expanding coring for density acceptance as an additional density tool on certain projects. The goal is not to replace the nuclear density gauges at this point, but to develop a working GSP that would allow WSDOT an additional density tool for possible use on certain projects. Would like to work together with WAPA to develop a trial spec and test it out on a couple of projects. Initial considerations include changing the subplot size to reduce the number of cores required,

contractor provided traffic control and contractor obtain the core then transfer to WSDOT inspector for testing by WSDOT.

This topic generated lots of discussion with general disagreement in the idea from WAPA members and Region Materials Engineers. Comments include (a **subcommittee** will be assembled to investigate):

- Added time for coring impacts work hour restrictions reducing paving time and exposing contractors to LD's
- Cooling cores noting only 1 shot at getting a core due to no retest/challenge option
- Delayed test results
- Reduced ability to correlate contractor QC gauges
- Increased staff and equipment requirements
- Local Agencies who rely on WSDOT spec's, although they can keep APWA spec's
- Coring is a destructive test
- Chain of custody concerns with sampling and testing
- Reduced sampling results in less data for statistical analysis
- Why deviate from the accepted AASHTO T355 standard?
- Would be better off trying to fix the Nuclear Gauge/SAM issues, ideas include:
 - Go to Two 4-minute tests at 90 degrees and reduce the tolerance
 - Use thin lift gauges exclusively 3450's or 4640's?
 - Follow through on training, including GEC's
 - Require Nuclear Gauge documentation from GEC's and DB QA firms.
 - Continue to look at new technologies, RDM etc.
- March 28, 2024: This topic was touched on in the Compaction Subcommittee, and was a topic in the Joint Training.
- [October 31, 2024: Instruction Sheets added to gauge boxes including language regarding "Erroneous or Suspect Gauge Readings" \(attached\). Focusing on training and ensuring testers are qualified. Looking at a couple of trial Design/Build projects using Cores instead of Nuclear Gages for densities.](#)

22-09 Sample Splitting Protocol

- November 3, 2022 – New topic for the next meeting
- April 13, 2023: Concern is that the current process is subject to some variability, looking to tighten up so it's more consistent. One area is for contractor and WSDOT testers to coordinate methods and use same methods throughout the job. Dave S. and Kentin to put something together for a recommendation. Steve Davis will also look at WAQTC training.
- October 19, 2023: Steve did not find any existing videos. Kim will take the lead on working with WAQTC to put a video together showing best practices and how different methods can result in different results.
- March 28, 2024: Kim to put together a video in coordination with trainers.
- [October 31, 2024: Nothing new on this topic.](#)

23-01 Lead and Asbestos Containing Material GSP's

- April 13, 2023 – Lakeside concerns regarding recent paving contract specifications. Two extremes have come about. In one case suspected ACM's identified when no testing has been done (example is bridge membranes). In the other a second volume of specifications (246 pages) included in a basic paving job (13 miles, 16 plan sheets) just for Asbestos and Lead Good Faith Investigation.
- October 19, 2023: CN office did have discussions encouraging getting samples tested whenever possible when ACM is anticipated (membranes).
- March 28, 2024: Has there been an improvement in these reports?

- [October 31, 2024: This item to be removed from the next agenda.](#)

24-01 GEC/Design Build QA

- March 28, 2024: GEC/Design Build QA. Discussed in the GEC Subcommittee on 3/8/24 (see attached notes), also a topic at the Joint Training.
- [October 31, 2024: HQ materials has hired a new position: Materials Quality Oversight Engineer dealing with Design/Build, SAM, F & t analysis for QV, Quality](#)

New Items:

Other:

Climate Challenge – 4 contractors have volunteered to participate in the study. Tucci, CWA, Granite, and Poe. Investigation to be completed this paving season. [Any Updates on this?](#)

E-Ticket Update: All HMA jobs will be using the new HaulHub portal.

Sign up here [Washington State Department of Transportation - HaulHub Technologies](#)
[Any issues with getting set up for this?](#)

SET DATE FOR NEXT MEETING –

Date: [March 27, 2025](#)

Time: [9:00 a.m. to 12:00 p.m](#)

Location: [Bullfrog \(code 4551#\)](#)