

August 26, 2025

Meeting – HMA Tech Team

Location: Teams Meeting / In-Person @ Truax Madison, Chem Test Classroom

Date: 08-26-2025

Time: 10:00AM – 1:00PM

Attendance

- Albert Kilger
- Dan Kopacz
- Derek Frederixon
- Andrew Hanz
- MK – Myungook Kang
- Scott Syron
- Erik Lyngdal
- Cheng Thao
- Brian Jandrin
- Adam Albers
- Matt Bertucci
- Carl Johnson
- Taylor Christianson
- Bryce Cibulka
- David Hose
- Deb Schwerman
- Devin Harings
- Jeremy Barron
- Jon Wixom
- Neal Atanasoff
- Paul Eggen
- Linette Rizos
- Travis Kurey
- Craig Konkle
- Casey Wierchowski
- Zach Lemke
- Jim Boggs

Agenda Items

1. Research Updates
 - i. WHRP
 - 23-01 Benchmarking Delta Tc
 - Final presentation was held and Final Report, with comments addressed, was submitted.
 - Should be published soon.

- 24-01 High Traffic Asphalt Mixes
 - The research team has been verifying the lab produced mix to match the field volumetric and aggregate gradation. A meeting was held with the POC committee, and no cost extension was requested.
- 25-01 Investigation of Reflective Cracking
 - For Tasks 1 and 2, the research team completed gathering information about existing literature. In addition, responses to the survey regarding practice and specification to address reflective cracking from 5 states/cities with climates similar to Wisconsin were received. These responses will be incorporated into the literature review to be submitted as part of the project deliverables.
 - For Task 3, the research team was able to identify the five projects/mixes that will be evaluated. Materials that include aggregates, asphalt, and recycled materials for three of the five mix designs have been delivered, and materials for the last two mix designs have been sampled and scheduled for delivery at NCAT. Material characterization (gradations and asphalt content for RAP) required for mix verifications has been conducted for two of the materials received.
 - Upcoming for task 3, the research team will characterize materials for the remaining three mix designs for verification. In addition, in the next quarter, sample preparation and performance testing of these samples will be initiated.
- 26-04 Evaluation of Hamburg Wheel Tracking Test (HWTT) for Rutting Resistance Assessment
 - Project workplan was submitted for review.
- Casey W.: Literature review materials were sent to the TOC to review.

ii. NRRA

- There is a HWTT project in the draft report stage that provides a standardized calculation of the SIP. There is a program that can perform the new calculations as well.
- A pavement conference was held in April.

iii. CAPRI

- There is a conference coming up in October in Colorado.
- There is an RFP for short- and long-term aging procedures.
- There is a project for validation techniques for BMD criteria.
- NCAT is working on the HWTT IDEAL-RT study.
 - Mixes were sent last year with more this year.
- There are webinars available.
- There is a request for quotes for examining specimen fabrication

variabilities of BMD.

2. Review of Previous Action Items

- Albert presented action items from the last year and their resolutions, if available. The Previous Action Items are listed at the end of this document with any relevant notes from the meeting.
- Cheng T.: Has the Department thought about doing bulks without bags? Troxler has a nuclear equipment to measure Gmb.
 - Albert K.: My gut reaction is we would not want to move in this direction due to regulatory issues.
 - Cheng T.: This one is exempt from the regulations because of low radiation.
- Albert K.: We will continue reviewing progress on past action items in future tech team meetings as a way of remaining accountable.

3. 2024 PWL Review with Dispute/Non-comparison Analysis

- Albert presented the 2024 PWL Review with Dispute/Non-Comparison Analysis **[Presentation included in email containing these notes.]**
 - Jim B.: We used ignition ovens and reflux for the comparisons. Professor J. Epps saw higher results in IO results than other methods across the country. MI for example was using vacuum extraction with and extra filter paper which is an AASHTO mod.
 - Cheng T.: Did you guys go through the data and filter out specific mix types that may be the cause of differences?
 - Albert K.: No, not to that level of detail.

4. SMA Test Strip

i. QV testing one or both samples.

- Dan K.: Even though the spec says the department will only test one of the split samples, some regions are testing both. The spreadsheet is setup to only accept one test and cause some confusion on the projects. If all the regions want to test both we may want to update the spec and the worksheet.
 - Scott S.: In both SWR Madison and La Crosse we run both and will continue to run both. We run both samples hot.
 - Dan K.: How do you handle the spreadsheet issues?
 - Scott S.: If I run both, and one fails, I enter the failure in the spreadsheet. This is the only way to note the failure.
 - Derek F.: SMA is more variable, so from testing standpoint, I would like to see both tested by the department.
 - Casey W.: There should be consistency between regions.
 - Taylor C.: We are not testing both in NCR and have no

desire to test both right now due to workload.

- Jim B.: In SER, where we do the most SMA, we were testing both, and now we're not. I support testing both.
- Bryce C.: We test both samples in the NER.
- Scott S.: We run SMA at night too, so we have people running these at night. I think it's important to get a good comparison right away to make sure everything is running smooth.
- Devin H.: I'm not sure if NWR runs both or not.
- Deb S.: It will be important to make sure we do things consistently. If both samples need to pass now, then maybe there should be some engineering discretion. For example, if the first test fails and a change was made to address the issue.
 - Dan K.: We do this now when the regions reach out to BTS. We take changes made into consideration when approving the test strip. We want to make sure the mix will be good before moving into production.
- Derek F.: When would this change if we make changes, next year?
 - Dan K.: We should be consistent now. We will finish out this year doing what we are doing though.
- Albert K.: It might be possible to do more SMA samples if we can reduce the number of replicates for each sample for SMA – which we are currently investigating.
 - Dan K.: We've decided that we will keep the test strip the same as it is today, due to the additional work.
 - Jim B.: I discuss test strips with other pavement designers on test strip consistency and there is a lot of desire for the test strips to be the same size and footprint [between HMA and SMA]. There is often confusion between the products and the test strip sizes, 500T vs 750T.
- Jim B.: I've noticed that when testing both samples, they are always similar, which is concerning when it's so different just within 500 tons.

5. Tack Coat Application Issues

i. When to Use Non-Tracking Tack

- Albert K.: We've seen a few projects again with spotty tack applications. There were also some questions on when to use non-

tracking tacks.

- Jim B.: We need to get some data on how well it's working to bind 2 layers together vs. other materials. Are there performance differences between the general tacks and non-tracking tacks?
 - Dan K.: Based on the research we've seen I think it is performing as long as you don't use to hard of a tack [low penetration].
 - Andrew H.: The stuff we make is around 30-pen.
 - Jim B.: Some states base the application off of residual AC. I know that our application is on the low side nationally and we don't use residual so our final application after evaporation is on the low end nationally when I last looked into it.

6. SDX Screed

- Casey W.: This new SDX screed has recently shown up on projects and it leaves behind visual longitudinal tining marks. The public also starts to ask about these things. We would like to get some feedback on these screeds.
 - Carl J.: Screed options have been relegated to the tractor unit manufacturer now, so there's not a lot of interoperability going on. So, using a CAT screen is just a byproduct of CAT pavers being dominant in market share. There's been a lot of consolidation in the equipment.
 - Albert K.: Are there any benefits to this particular screed, increased density etc.?
 - Scott S.: They claim they can get 89% density out the back.
 - Derek F.: Better density, it also remixes the surface, and less segregation.
 - Scott S.: Generally, you can't feel the "tining".
 - Dan K.: Sometimes you can feel it. Maybe it depends on the material and rolling.
 - Erik L.: When you see the tining marks, you might think longitudinal cracking may become a concern. I don't know that there is any validity to it – just something to monitor. Do we have a risk?
 - Albert K.: One thing that comes to mind that could be of concern is if our survey van will measure these impressions as longitudinal cracks.
 - Scott S.: The contractor gave me a heads up they were going to

use this screed, should I have said something prior to them using it?

- Albert K.: Anytime something new is going to be used, it's worth mentioning it to us, although the spec doesn't necessarily constrain them from using it.
- Deb S.: These have been out for a while now starting last year, so there could be projects across the country where these have already been used. Also, we don't want there to be a question on whether or not we can use the product because in some cases we may not have a choice – unless the department wants to get prescriptive. The end result (good density, smoothness, etc.) is what we are after and should be the main focus.
- Dan K.: I'm pretty sure this won't cause issues, but we need to keep an eye on it just in case so we don't regret it later.

7. 2026 Manual of Test Procedures (MOTP) Updates

- Albert presented the presentation summarizing the MOTP updates.
[Presentation included in email containing these notes.]
- WTP H-004 is new that includes a detailed procedure for the nuclear gauge annual BTS block calibration.
- Cheng T.: Is there anything in the BMD conditioning for WMA, or is it just the 4 hours at a temperature.
 - Albert K.: For consistency reasons right now we specify a constant temperature and duration for BMD aging and did not make an exception for WMA. We can discuss this more in the BMD subcommittee.
- Cheng T.: Is there a change to BMD cooling?
 - Albert K.: We added the 24 hour cooling after compacting for BMD. The non-BMD samples are still 1-hour in front of a fan.
 - Cheng T.: Do the TSR samples need to wait 24 hours?
 - Jeff A.: There is a step-by-step procedure in the TSR process that requires the laboratory production samples to set for 24 hours. The procedure spells out each timeframe for the procedure.

i. Asphalt Analyzer

i. Methylene-Chloride Drying

- Scott S.: One issue may be that we do not prescribe the length of a wash and dry cycle. For example, our total test time is 1 hr. 43 minutes which is about the same as Northeast – Green Bay which is 1 hour 45 minutes. We are running 8 wash and 6 dry cycles while they are running 15 wash and 12 dry cycles.

- Albert K.: For those that have been reporting issues with drying with the methylene chloride analyzers, Bob Stack (BME/Infratest Service Tech) has been reprogramming the drying cycle procedure slightly to improve it. They have found that more frequent pressure releases helped dry specimens faster. The AASHTO leaves the cycle durations up to the manufacturer to account for all the different brands, etc. The new MOTP procedures, however, will require everyone to first check that the maximum number of drying cycles is doing the job, otherwise additional drying will be required to get to constant mass.
- Albert K.: Added a step at the end of the procedure that allows for recalculating the asphalt content if additional drying is performed to verify the results since only the initial mass and final dry mass are needed.
- Deb S.: Is the mass loss requirement for every mix design? If you are running the same mix design and there's been no AC change, then you can assume that you can still use those same number of wash and dry cycles?
 - Albert K.: There are still some discussions going on as to whether this should be for each mix design or based on the NMAS. Currently, these checks should be performed for each NMAS. We do recommend checking it on a per mix design basis though.
- Jim B.: Does it have to be oven dry constant mass, or do you allow for drying in an open pan? I am concerned with overheating and loosing particles and changing gradations by shattering.
 - Albert K.: No, this has to be done in an oven at 110C +/- 5C. Then you check for constant mass in 15-min intervals. There may be some more changes in the future to that process based on some data we've seen that says the current procedure may not be sufficient in some cases.

8. Website for Meeting Minutes

- i. <https://wisconsindot.gov/Pages/doing-bus/contractors/tech-teams/materials.aspx>
 - **Action Item:** The department will update the above website with all of the meeting minutes that have been missing.

9. Other Topics Brought Up During Meeting

- AASHTOWare (AWP) Updates
 - Erik L.: Nothing has changed. There are still 3 projects, 1 in the North Central, 1 in the Northeast, and 1 in the Southwest. Two of those projects have asphalt as the primary bid item. All three will be let in November. The spec book is getting finalized through the FHWA review. The spec book will be posted as soon as it's available on the HCCI website. There are provisions for mandatory training that will be hosted by BTS.
- Future Tech Team meetings
 - Casey W.: We will send an update on upcoming meetings.
 - **Action Item:** Department will send an update on upcoming meetings.

Previous Action Items

- 02-19-2025
 - Department will create a LISTSERV notification for MOTP.
 - This is available now. On the QMP website where the MOTP is hosted, at the bottom of the page, there is a BTS LISTSERV that you can sign up for.
 - <https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcses/qmp/default.aspx>
- 04-29-2025 Spec SubC
 - Department will draft a shadow SMA PWL SPV.
- 05-20-2025
 - Department will hold BMD Subcommittee meeting to discuss new BMD approaches and SPV updates.
 - Department will hold a PWL subcommittee meeting at the request of industry. Industry should send topics to Department.
 - Department will shadow SMA projects to determine if number of Gmb replicates can be reduced.
 - In progress. Analysis will be available in early 2026.
 - Dan K.: We were looking at mimicking the PWL sampling frequency on an SMA project and had a willing contractor in one of the regions. We will get feedback from this project as well.
 - Department will look to equip regions with core dryers.
 - Scott S.: What is the timeframe?
 - Casey W.: We haven't set a hard timeframe yet.
 - Scott S.: What brand would we get, Troxler/Instrotek?

- Casey W.: Does industry have feedback?
 - Derek F.: The Troxler is a little smaller and easier to move.
 - Deb S.: Does industry have a preference?
 - Derek F.: Troxler
 - David H.: Troxler – easier to move.
 - Cheng T.: We use Instrotek.
- Department will review and update label requirements to add virgin binder and WMA/compaction temperature (if other than 275°F) to label.
 - Added Asphalt PG Grade added to label.
 - WMA/Compaction Temperature (if other than 275°F) was not added.
- Department will add BMD test modifications and procedures to the 2026 MOTP.
 - IDEAL-CT and HWTT now use 61 ± 1 mm specimens.
 - Cheng T.: What about No. 2 mixes?
 - Albert K.: We don't get No. 2 mixes very often, but we did not modify the thickness requirements for the larger NMAS mixtures. So, if you did encounter a No. 2 mix, you would test with the thicker specimens.
 - Cheng T.: When we accidentally didn't change it from 62mm to 95mm, the gyratory was unable to achieve the target height going for several hundred gyrations. However, once the specimens are produced, we have to cut them to height, since 95mm samples do not fit in the molds.
 - Carl J.: How much application is there to running a HWTT on a No. 2 mix going to affect the pavement in-place application. Typically, we are talking well below the surface, and they are already highly rut resistant due to low AC, etc.
 - Dan K.: If we are going to use No. 2 mixes, there may be some validity to it, since we have had some issues with No. 2 mixes stripping out underneath the pavement. We may need to tweak the procedure though if we do this.
 - Albert K.: If we end up specifying a No. 2 mix, we may do performance tests just to get an idea of the relative performance, but whether

we end up moving forward with an actual BMD specification on those materials is up for debate.

- Did not yet add IDEAL-RT.
- Did not add Sample Preparation Guidance yet, still in progress with addition of IDEAL-RT. Will likely get added as a WTP H-00X later.
- Department will correct typo in MOTP H-001 allowable difference for Gsb.
 - Complete.
- Department will complete and submit MOTP 2026 updates by August 1.
 - Complete.
- 05-30-2025 Spec SubC
 - Department will collect information on SMA joints for future PWL LJD implementation.