

Meeting Notes

MTO-OAPC Hot Mix Asphalt Subcommittee

Date	December 5, 2024
Time	10:00 am to 1:00 pm
Meeting Hosted By	Ontario Ministry of Transportation (MTO)
Location	95 Arrow Road, Toronto & Microsoft Teams

Attendance:

Attendee	Organization
Doubra Ambaiowei	Ontario Asphalt Pavement Council (OAPC)
Fernando Magisano	Canadian Asphalt Industries Inc.
Mark Latyn	Capital Paving
Selena Lavorato	GIP Inc.
Trevor Moore	COLAS Construction
Amma Agbedor	Asphalt Institute (AI)
Sina Varamini	CRM of Americas
Kate Lyons-Davies	CRH
Hashim Anwar	CRH
Joel Magnan	MTO, Engineering Materials Office (EMO)
Jenn Meleschuk	MTO, Construction Management Office (CMO)
Seyed Tabib	MTO, CMO
Gelu Vasiliu	MTO, EMO
Stephen Lee	MTO, EMO
Warren Lee	MTO, EMO
Imran Bashir	MTO, EMO
Heather Bell	MTO, EMO
Dariusz Wodala	MTO, EMO
Loan Le	MTO, Construction Central
Gizelle Cotton	MTO, Construction East

Introduction / Announcements:

- Heather Bell has joined the committee.
- Dariusz Wodala will be leaving the committee after this meeting.
- Olu Olusanya and Kenneth Shannon joined the committee today as guests.
- OAPC delivered a safety talk on winter hazards.

- Meeting notes are posted on Technical Consultation Portal (TCP) after final approval by MTO and OAPC. MTO to fix issue with September meeting notes not opening on TCP. **Post-Meeting Note:** MTO fixed issue with link to notes on TCP website.
- OAPC requested that MTO post their Ontario Road Builder's Association (ORBA) president's tour 2024 presentation on TCP. **MTO to reach out to organizers to get presentation posted.**

Open Items

2019-12-8, Mix Performance Testing

Description:

- MTO to develop specification for Mix Performance Testing (MPT) that can be included on any project.
- OAPC wondering if MTO has preferred method for balanced mix designs (BMD).
- MTO is conducting ongoing MPT lab correlations.

Discussion:

- Analysis for 2024 Round 1 of the MPT correlation almost complete. Results will be sent to individual labs next week and summary will be shared with OAPC mid December.

Action Items:

- MTO to share 2024 Round 1 MPT summary.

2022-03-10, Environmental Product Declarations (EPD's) for Asphalt in Ontario

Description:

- As part of the net zero emissions goal, OAPC is seeking to understand MTO's perspectives on EPD's for Ontario asphalt mixes and forging a collaborative approach to make it work.

Discussion:

- OAPC has funding from the National Research Council (NRC) and are currently identifying participating facilities. OAPC wants a benchmark so they will be asking all facilities to join. Aiming for August/September 2025 to have EPDs from all Ontario asphalt plants.
- MTO is working on incorporating EPDs into its GreenPave system. OAPC has concerns about how point system will work. MTO is still working on it. MTO's climate change office is having a bigger picture conversation.
- Other agencies incorporating into tendering process. Need EPDs for all materials to get baselines and targets first.
- Asphalt Institute (AI) is working on binder EPDs by sectors not individual binders. More detailed and realistic than singular number currently used by National Asphalt Pavement Association (NAPA) software.

Action Items:

- OAPC to share links to NAPA EPD requirements. **Post Meeting Note:** OAPC sent these links to MTO.

2022-05-13, SMA Applications – Grit Sand Specification Revisions

Description:

- OAPC suggests MTO can look at revising specification due to lack of grit sand sources available.
- OAPC indicated that there is variability in how Contract Administration (CA) firms accept gritting material on MTO contracts.

Discussion:

- MTO still working on revised Stone Mastic Asphalt (SMA) grit specification and new Construction Administration and Inspection Specification (CAIS).
- One round of SMA grit correlation is currently being conducted to assess variability of gradation and Asphalt Cement (AC) content. Second round will be in January 2025. At this time due to limited quantity of material only Quality Assurance (QA) and Referee labs will be participating. Going forward a correlation for SMA grit will be conducted two times a year.
- OAPC advised that density and absorption of aggregates can play a role in the effective Asphalt Cement (AC) when it comes to the grit sand.
- New SMA gritting specification is not going to be a Non-Standard Special Provision (NSSP) since these are viewed as optional. It will be a Standard Special Provision (SSP) so it will always be pulled into the tender with the SMA items.
- New SSP will open up the gradation bands to hopefully allow a few more sources. Grading, AC content, aggregate physical requirements, and application rate are considered essential to ensure friction.

Action Items:

- MTO to share SMA grit correlation results.

2022-09-12, Smoothness Specification – Future Changes

Description:

- MTO reviewing the current smoothness specification and the list of exemptions for existing pavements. Specifically, MTO would like to modify section 8.01.02:
- *“The first adjacent lane consisting of one or more lifts of hot mix asphalt that shall match to an existing surface that is not being resurfaced as part of this Work.”*
- MTO noted that currently projects have excluded entire lanes from smoothness measurements due to the tie-in exemption.

Discussion:

- Smoothness specification revision is still with Standards Management Section (SMS) for review, but comments have been received and are being addressed.

Should be completed shortly and posted on TCP along with the updated CAIS. MTO is aiming for March 2025 or sooner.

Action Items:

- MTO to post new smoothness SSP and CAIS to TCP for consultation.

2022-12-13, Additional OAPC 2024 Research Program Outline

Description:

- OAPC initiated a study in collaboration with Carleton University. The expected timeline to complete the study is 3 years.
- The study objective is to quantify the Green House Gas (GHG) emissions at asphalt plants. This study supports the move to net zero emissions.
- OAPC is also conducting an O-MAP study on MPT.

Discussion:

- OAPC published Ontario – Mix Asphalt Program (O-MAP) MPT third round results in Asphalt topics. Concerns with Hamburg Wheel-Tracking (HWT) variability. Flexibility Index Test (FIT) and Disk-shaped Compact Tension (DCT) test results are meeting and exceeding MTO proposed thresholds. Ontario Asphalt Expert Task Group (OAETG) is focussing on 20% and 30% Reclaimed Asphalt Pavement (RAP) to understand the risk of using RAP.
- OAPC stated that the PG plus tests, like the Extended BBR (EBBR), ensures soft binders that provide very high DCT values and room to use RAP that typically stiffens the mix. Suggest the test temperature for the DCT be reviewed since it is based on the specified grade not the actual grade which in Ontario is sometimes a whole grade lower than the specified grade.
- MTO has concerns about OAPC's claims that RAP and AC are the primary factors influencing HWT. The results presented show a trend that laboratories are improving which suggest FIT and DCT thresholds are achievable and may be ready for implementation but will not be implemented yet. However, HWT still needs additional evaluation due to its variability.
- MTO suggested looking at the laboratories' HWT procedures since variability might be coming from not following proper procedure as MTO has found in their correlations and has since worked with the participating labs to reduce this variability.
- OAPC has Specimen Fabrication Testing Instructions for the O-MAP correlation that they provided to the lab to control variability in their correlation and the results have been validated by the oversight study team.
- OAPC is concerned about moving too quickly to implementation. BMD needs to be applied to lab-produced mixes as part of mix design. OAPC emphasized that we should not be changing mix designs that have performed well for years just to meet HWT requirements. We cannot forget field experience.
- MTO agreed that more study is needed before implementation and that we cannot go to full BMD and MPT without volumetrics and PGAC/RAC testing. Need to take a

gradual approach and introduce MPT alongside existing testing to understand correlation between them fully.

- OAPC asked the MTO to join the OAETG or have a focused meeting to get MTO's advice on what research needs to be done and where the O-MAP study goes next.
- MTO stated that they wanted to provide OAPC with room to develop their own BMD research as OAPC has more experience with doing mix designs.
- OAPC stated they will send MTO the executive report and would seek MTO's feedback.

Action Items:

- OAPC to share latest round of O-MAP results.
- OAPC to submit a formal written request for a MPT focused meeting.

2023-06-1, HMA Optimization

Description:

- Warm Mix Asphalt (WMA) coupled with higher RAP combinations to reduce environmental impacts.
- OAPC wants to promote using recycled material.

Discussion:

- OAPC working with York Region on high RAP WMA trial (up to 50%). Aiming for July or August 2025 for demo of the mix. More details to follow.
- MTO asked if effective binder of the RAP will be considered as there are concerns about RAP binder contribution at WMA temperatures.
- Would only plants with a well-established RAP management and characterization program qualify for this trial?

Action Items:

- OAPC to invite MTO to attend pave-in.

2023-09-1, Balanced Mix Design

Description:

- OAPC wants to understand MTO's process on BMD.

Discussion:

- OAPC informed MTO that Federal Highway Administration (FHWA) trailer cannot cross the border. Working on alternatives: including sending interested parties to Michigan to see the trailer, have United States (US) expert come to Ontario lab equipped with MPT to provide training; however, this may require a work permit.
- MTO suggested Canadian Asphalt Institute engineer to be the trainer.

Action Items:

- OAPC to reach out to FHWA to inquire if any communication with MTO will help.
- OAPC to look into US expert coming to Ontario MPT equipped lab to provide training.

- OAPC to work with Canadian Asphalt Institute engineer to organize Ontario MPT training.

2023-09-3, OPSS 313 – Revisiting Quality Evaluation

Description:

- How can OAPC increase or strive for better quality in asphalt pavement?

Discussion:

- MTO presented technical data on Per cent Within Limits (PWL) before and after the Auditor General (AG) report. Next step is to look at financial impacts. Need to provide a strong reasoning by showing improvement in pavement life.
- MTO may not revert to the payment structure used prior to AG report. May consider one of the parameters that relates to proven performance. The 2016 National Center for Asphalt Technology (NCAT) report 16-0R mentions that historically payments that have compaction above 92% results in an increase in pavement service life. Data MTO presented previously to OPAC showed that the average compaction on MTO contracts was well above the 92% limit.
- Compaction is 50% of the total pay factor and is under consideration for review of payment factors. MTO may not consider reverting to the 3% that was used prior to AG report and is currently considering other levels. Improvements to durability should balance the additional cost. Additional technical and financial evaluation is needed to make evidence-based decisions.
- Compaction represents the actual final product (cores) and there is literature supporting its impact on life expectancy.
- OAPC would like an official response to their letter and asked if this would need to be approved at a higher level.
- MTO agreed to develop a formal letter response regarding the approach and is working on presenting a strong case and justification that will be easier to support no matter what level of endorsement is necessary.
- MTO is concerned that AC content has been decreasing over time. OAPC suggested considering an AC incentive as well.

Action Items:

- MTO to provide an official response to the OAPC letter.

2023-12-1, CTAA 2025 & MTO's Collaboration

Description:

- OAPC requested MTO to collaborate for the Canadian Technical Asphalt Association (CTAA) 2025 conference since the conference is coming to Ontario. OAPC feels that MTO should be attending given their leadership role.
- OAPC requested MTO to showcase their facility during CTAA 2025.

Discussion:

- MTO agreed to tour Centre for Excellence in Transportation Infrastructure (CETI) lab for CTAA. MTO is trying to maximize participation. Bituminous Section is working on a number of papers.
- Abstracts due to CTAA mid February.
- CTAA Local Organization Committee (LOC) wants to meet with MTO to plan visit to CETI. MTO contacts were provided to OAPC.
- MTO's financial support was requested at MTO-ORBA Executive Committee. Currently, ORBA committed to be a bronze level sponsor; however, if MTO provides support ORBA will consider increasing their support.

Action Items:

- OAPC to pursue MTO-ORBA executive committee for financial support.
- OAPC to share progress with this committee.

2024-03-1, Revisit AC Index Publications

Description:

- OAPC asked why AC Index was not published with updated values over the winter.

Discussion:

- The MTO Performance Graded Asphalt Cement (PGAC) price index was established to reduce the bidding risk to the Contractors as a result of fluctuations in PGAC supply pricing.
- A jurisdictional scan of the use of PGAC indices in construction contracts for other Canadian provinces has been completed and found that 8 provinces specified an AC price adjustment in their contracts. The AC price adjustment calculation is similar to Ontario's except for Quebec. British Columbia, Alberta, Manitoba, and Quebec use the MTO's index price in their monthly calculations.
- MTO is in the process of conducting a jurisdiction scan and survey on AC price indices for Ontario Municipalities to ensure MTO has a fulsome understanding of the impacts of any changes we make.

Action Items:

- MTO to provide method of calculation of the PGAC index to OAPC. **Post-Meeting Note:** MTO shared the methodology with OAPC on December 6th, 2024.

2024-09-2, PGAC Sampling Requirements

Description:

- OAPC inquired if it is possible to change the Ontario Provincial Standard Specification (OPSS) 1101 requirement to have a sampling spigot and whether in-line samples should be acceptable.

Discussion:

- OAPC still consulting with members. Meeting in March and will report back to MTO. OAPC has some ideas on how to improve Performance Graded Asphalt Cement (PGAC) sampling but need all member's feedback first.

Action Items:

- OAPC to provide recommendations to MTO on PGAC sampling requirements.

New Items

2024-12-1, Clarification on Longitudinal Joints Offset Language

Description:

- OAPC inquiring about intent of 50 mm offset of longitudinal joint from lane demarcations requirement.

Discussion:

- OAPC mentioned that this issue came from a member.
- MTO asked about the specifics on this contract. This wording has been in the specification since 2014 and was part of several rounds of consultation. At the time there weren't any issues.
- OAPC requested more information in the field guide on how to administer this. Don't want the paint on the joint or the joint in the wheel path. OAPC asked if MTO can just put language about this instead of a strict 50 mm.
- It is challenging to stagger multiple lifts and meet this. OAPC will review some jobs and provide information to determine where this is out of compliance and if there is a need for repair or correction.
- MTO would like to have pictures from real situations to determine how to improve the specification, to understand if it was an isolated case or a regular occurrence.
- MTO mentioned that this has not been observed on many jobs, however, more consideration will be given in the future for recessed pavement markings since a new specification is being developed.
- MTO hasn't really enforced this, however consideration has to be given not to result in unintended consequences.
- OAPC agreed and suggested closing the item.

Action Items:

- Close item.

2024-12-2, Revisit Cross Slope Specification

Description:

- OAPC has concerns with implementation and enforcement of the cross-slope specification.

Discussion:

- OAPC said they are not able to meet this specification. A member has provided a lot of details and questions about the cross-slope specification.
- MTO has received the comments and reviewed them. MTO did mention that they verified the precision of a smart level for cross-slope and confirmed the tolerance value is doable and in line with other jurisdictions.
- OAPC indicated that meeting cross-slope on every lift without being able to make corrections on subsequent lifts is an issue.
- MTO proposed tighter tolerances before meeting with OAPC in 2023, but following consultation the range was relaxed. It would be good to see data, specifically a comparison of Quality Control (QC) and Quality Assurance (QA) data on specific paving projects demonstrating difficulties with correlation between contractor's and inspector's measurements. MTO is open to look at this to see if there is indeed difficulty in achieving the tolerances and if there is a need to revise the specification.
- Previously, MTO did not have the ability to collect bulk as-constructed cross-slope information. Now with the wide deployment of the Automatic Road Analyzer (ARAN) vehicles, the MTO know where cross-slope is an issue and want to strive towards correcting it with this specification.
- OAPC indicated that if MTO knows cross-slope is a problem the design needs to account for correcting it.
- MTO has always required correcting cross-slope. It was zero tolerance before the cross-slope specification was introduced.

Action Items:

- OPAC to provide specific instances and contract data.

2024-12-3 New MTO Protocols for DSM Application and Renewals

Description:

- OAPC has concerns with letter some PGAC suppliers received regarding a new Designated Sources of Materials (DSM) protocol.

Discussion:

- MTO plans for protocol to be published on MTO Technical Publication website.
- In the past, some DSM protocols were managed formally and others informally. MTO is now working towards a more open and transparent process.
- Specifically, for PGAC, the DSM protocol is based on the current OPSS 1101 specification.
- Since the protocol is not publicly available, the website directs users to request it from the custodian (i.e., for PGAC from the Bituminous Section).
- Only new applicants have been contacted for now and were provided with three documents: application form, general DSM information, and specific DSM protocol that will eventually be made public.
- MTO has a plan to re-approve all bituminous products, gradually over time. In addition, to the new applicants, various suppliers were contacted to update DSM

related information (i.e., contact personnel, legal information, etc.). Other suppliers will be the subject of targeted communications in due time.

- OAPC was under the impression that one of their suppliers was requested to reapply.
- MTO clarified that it was probably a request to update DSM information that was out of date related to changes in personnel or corporate affiliation changes.
- OAPC was led to believe that a letter was sent to one supplier to re-apply for all their grades.
- MTO clarified that this letter was sent to update contact information, corporate affiliation and provide documentation and it was for re-evaluation of the products, not a removal or re-application. The new DSM protocol was shared with this correspondent.
- MTO has a plan to re-evaluate according to the current protocol for around 200 asphalt samples, 150 emulsion samples, and all other bituminous DSM listed products. A ministry internal audit highlighted that the MTO did not enforce the stated 5-year review. Going forward, this review will be conducted every 5 years for each product or at a period at the discretion of the MTO.
- The new DSM protocol includes revised fees that are now per service depending on stage of the approval process reached by each product. It also details of how products are included, maintained, or removed from the DSM list and how get re-instated.

Action Items:

- No Action.

Roundtable Discussion

- OAPC requested MTO to consider the Multiple Stress Creep Recovery (MSCR) test's Jnr value for Performance Grade (PG) 70 grades instead of $G^*/\sin\delta$ due to failure after the Rolling Thin Film Oven (RTFO). MTO responded that it is not aware of these failures. MTO has a robust specification that meets and exceeds any MSCR specifications and has tests that address pavement failures stated in the 2016 AG Report. Its focus is currently on Recovered Asphalt Cement (RAC) MPT and is not considering any change at this time. However, if any change in specification is warranted, it will be related to Pressure Aging Vessel (PAV) because looking at PAV 20 is not reflective of actual aging of polymer modified asphalts. MTO is more concerned of addition at the Hot Mix Asphalt (HMA) plant of hard asphalt or rejuvenators encapsulated in brittle asphalts.
- OAPC Fall Asphalt Seminar (FAS) presentations have been posted on OAPC website. Survey from the FAS will be in Asphalt topics and shared with MTO after review of the comments. **OAPC to share survey results and comments from question about MTO's leadership with MTO.**
- The bulk specific gravity for fine aggregate such as gritting sand may be a source of variability. Some labs may not be performing this test properly. This item will be of interest to both MTO-OAPC HMA Subcommittee and Ontario Stone, Sand & Gravel Association (OSSGA). **OAPC to summarize issue and share with OSSGA and this subcommittee.**

Information Shared for this Meeting

Documents Share by OAPC

1. Questions_OPSS.PROV 313.07.07.03.02 (PDF)
2. Revisit Cross Slope Spec. (PDF)
3. New MTO Protocols for DSM Application and Renewals (DOCX)

Documents Shared by MTO

None.

Next Meeting

- 2025 Meeting Dates (10 am to 1 pm):
 - March 27 – OAPC to host.
 - May 22 – MTO to host.
 - September 18 – OAPC to host.
 - December 11 – MTO to host.
- Meeting Adjourned 1:10 pm