


**BUILDING** *San Diego County*  
**BETTER ROADS**



**Working Group Meeting**  
**06/13/2023**



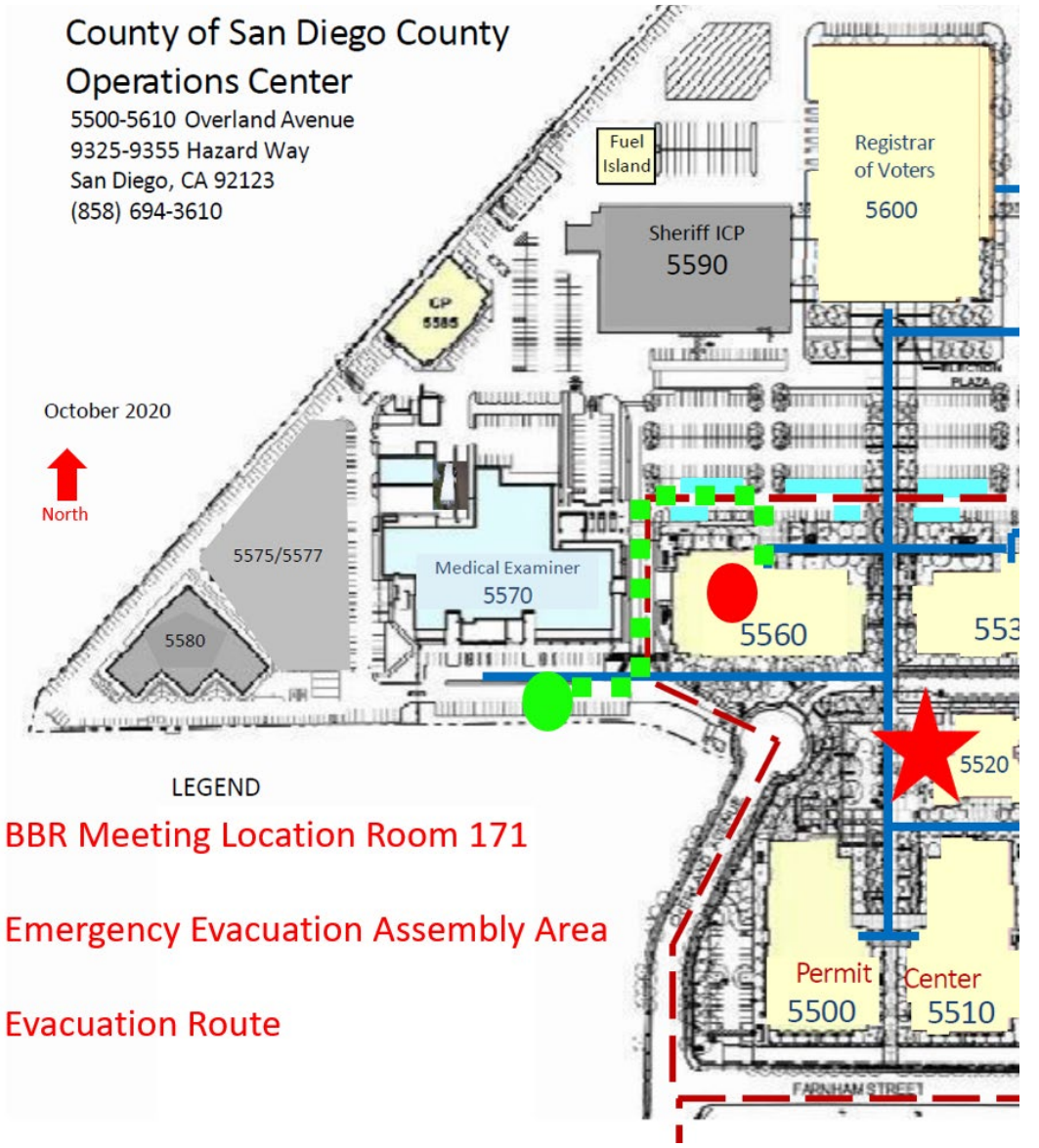
# AGENDA

- 
- 1) Orientation / Sign-In / Meeting Overview**
  - 2) Public Comments**
  - 3) Welcome**
  - 4) Industry/Organization Updates**
  - 5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**
  - 6) Subcommittee Update/ Topic Overviews**
  - 7) Next Working Group Meeting / Close**







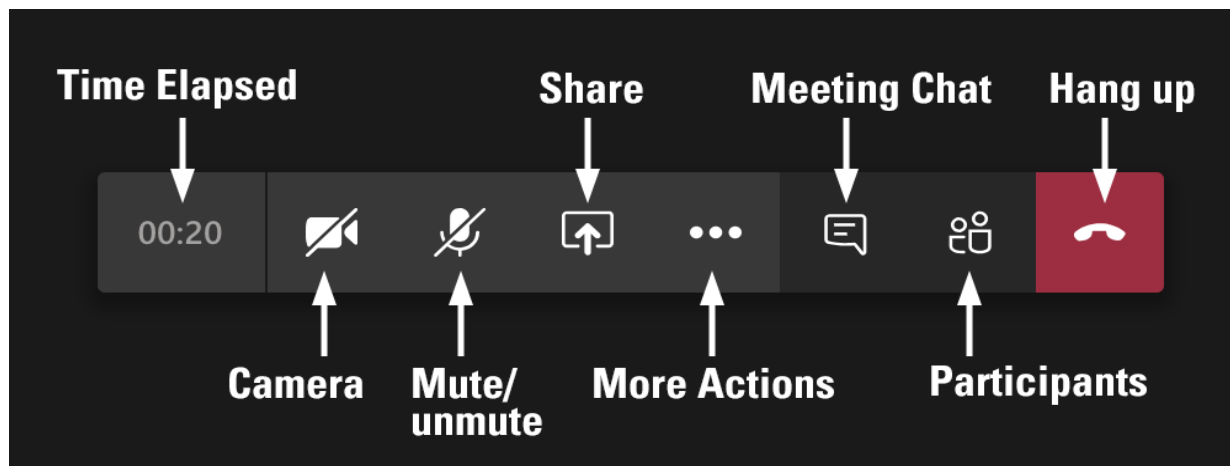
# BUILDING LOGISTICS AND SAFETY

- Room and Building Exits
- Restroom Location
- Fire Alarm Locations
- Evacuation Plan



## **TEAMS MEETING ETIQUETTE / SIGN-IN**

-  Mute Microphone unless presenting
-  Turn Camera off unless presenting
-  Use Chat window or Raise Hand for questions
-  Please enter your Name, Company/Agency, E-mail in Chat



# AGENDA

**1) Orientation / Sign-In / Meeting Overview**

 **2) Public Comments**

**3) Welcome**

**4) Industry/Organization Updates**

**5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**


**6) Subcommittee Update/ Topic Overviews**

**7) Next Working Group Meeting / Close**

# AGENDA

**1) Orientation / Sign-In / Meeting Overview**

**2) Public Comments**

 **3) Welcome**

**4) Industry/Organization Updates**

**5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**

**6) Subcommittee Update/ Topic Overviews**

**7) Next Working Group Meeting / Close**

# AGENDA

**1) Orientation / Sign-In / Meeting Overview**

**2) Public Comments**

**3) Welcome**

 **4) Industry/Organization Updates**

**5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**

**6) Subcommittee Update/ Topic Overviews**

**7) Next Working Group Meeting / Close**

## **TONY LIMAS - CALCIMA**

# **CALCIMA**

California Construction And Industrial Materials Association

*455 CAPITOL MALL, SUITE 210  
SACRAMENTO, CA 95814*

*“BUILDING CALIFORNIA DREAMS FROM THE GROUND UP”*

## **CALCIMA Industry Update**

**Tony Limas, PMPC Asphalt Subtask Group Lead**



## Pavement and Materials Partnering Committee ( PMPC) Updates

- **Executive Committee Meeting- February 16, 2023**
- **Caltrans Demo Projects**
  - **Goal: Test turnaround in 3 days**
  - **Report still in progress**
- **Statistical Pay Factor (SPF) Pilot Projects**
  - **(>10,000 Tons)**
  - **(2,250-10,000 Tons)**
  - **(< 2,250 Tons)**
- **High RAP &RAS Pilot Projects**
  - **WPG working on final report**
- **New High RAP/RAS working group**
  - **Revising nSSPs**
  - **Establish sampling conditioning protocol for IDEAL CT crack test**
- **RAP in Rubberized HMA**
  - **5 projects**

- **Post Plant Gradation**
  - 7 pilot projects
  - WPG working on final report
  - 3 proposed spec changes/ complete in 2023
- **Balanced Mix Design**
  - Short scoping documents signed
  - full scoping document by August 2023
- **California Tests**
  - CT 125 and CT 306 being revised by Ad Hoc Working Group
- **Larger Quartermaster Study for Aggregates**
  - Caltrans performing study to reduce sample size
- **Intelligent Compaction Specifications on Hold**
- **PG 58-16 added to 2024 CT Standards**

## Decision Documents

- **Elimination of WMA foaming units from Caltrans AML**

## Potential Decision Documents

- **Industry**
  - **Direct Feed RAP using scalped RAP grindings**
  - **Intelligent Compaction specification revisions**
  - **WMA Specification adjustments**
  - **Allowance of RAP in minor HMA**
- **Caltrans**
  - **License exempt Nuclear Gages**
  - **RAP Binder Data**
  - **prohibit washing of aggregates**
  - **Test Method Updates**
  - **Closed System automatic binder extractor ( Asphalt Analyzer)**
  - **Allow use of T 166**
  - **TSR Requirements**
  - **Durability of Aggregate**

# QUESTIONS?

For additional information please contact

Tony Limas  
[tlimas@calcima.org](mailto:tlimas@calcima.org)





The California Asphalt Pavement Association  
**Asphalt Industry Update**

June 2023  
Building Better Roads Working Group Meeting





# CalAPA: Caltrans – Emerging Initiatives

- Evaluation of recycled materials in asphalt mixes:
  - 40% RAP
  - RAS
  - RAP in RHMA
- Post-Plant Gradation
  - On track for Caltrans utilization in 2024
- Balanced Mix Design
  - Developing workplan for evaluation and implementation of cracking and rutting tests for mix design and field acceptance
- Zero-Speed Inertial Profilers



# CalAPA: Local Agency – Greenbook Emerging Initiatives

- Standards Update:
  - HMA Placement: Placement temperatures, lift thickness and mix types, compaction, & various references
  - Rejuvenator table revisions: expands table to align with ASTM table
  - AC Curb Mix: update on gradation and mix requirements, alignment with Caltrans
  - CIR w/ Emulsified Recycling Agent
- Gyratory Mix Design of Greenbook Mixes
  - Developing a new design procedure that utilizes a gyratory compactor
  - Use existing mixture requirements (gradation, AC content, etc)
  - Incorporate Hamburg Wheel Rut Testing



# CalAPA: Local Agency - Greenbook

- Micro-Trenching
  - Broadband utility implementation
  - Reviewing Draft Standard Plans
  - Focus on ensuring conduit is below the pavement structural section
  - Avoid allowing cables placed directly in the pavement section



# CalAPA: Local Agency - RAP

- Agency RAP usage
  - Optimize RAP usage in asphalt mixes
  - 2022 State law enacted requiring agencies to utilize specifications that allow the use of RAP using the percentages set forth in the 2018 Caltrans Standard Specification Book as a minimum.
- CalAPA assists agencies with identifying appropriate spec language when allowing higher percentages of recycled materials.



# CalAPA: Local Agency – Caltrans Standard Specs

- Caltrans Standards Published Annually - July
  - Available online only
  - Agency preview available (Contact DLAE) – April
  - All changes are submitted by end of January
- City and County Pavement Improvement Center (CCPIC)
  - <http://www.ucprc.ucdavis.edu/ccpic/>
  - Pilot Specification based on Caltrans Standard Specifications Section 39 (Superpave) for Local Agencies
  - Compaction



# CalAPA: Environmental

- Working with regional air districts in regard to various permitting and logistics issues
- Monitoring efforts to include environmental justice in CEQA
- Challenges with agency staffing changes.

# AGENDA

**1) Orientation / Sign-In / Meeting Overview**

**2) Public Comments**

**3) Welcome**


**4) Industry/Organization Updates**

 **5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**

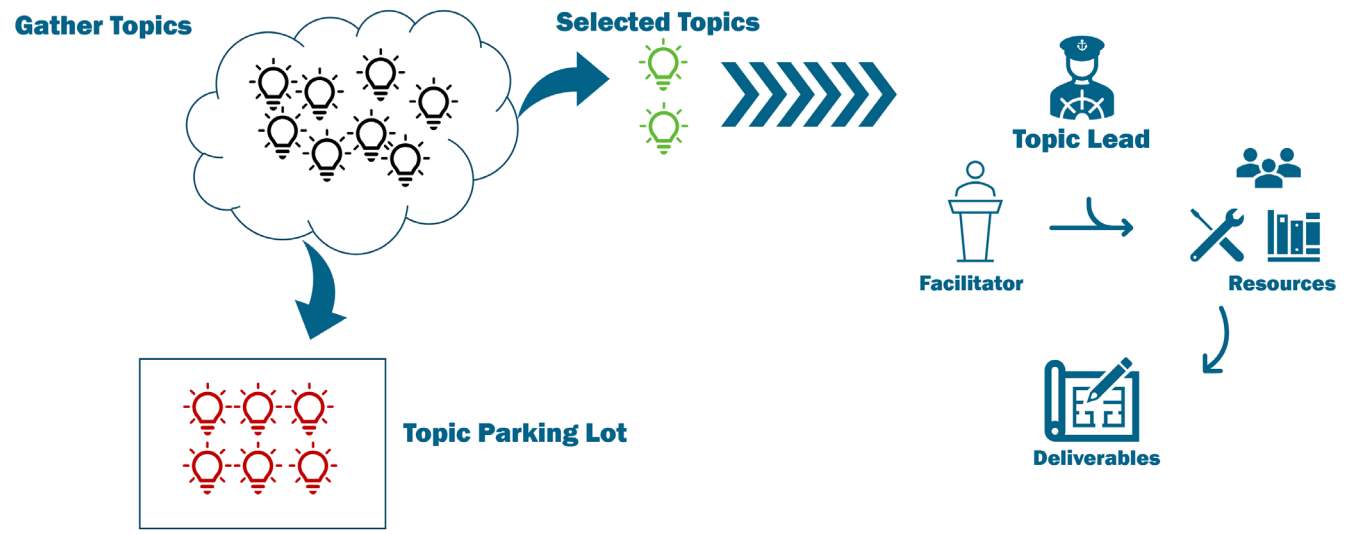
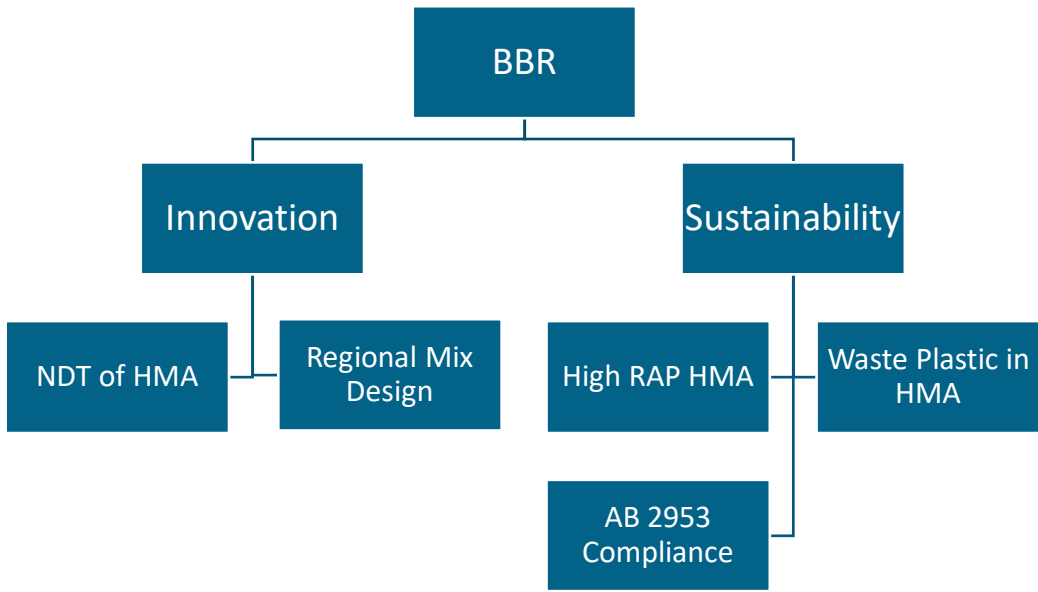
**6) Subcommittee Update/ Topic Overviews**

**7) Next Working Group Meeting / Close**

# AGENDA

- 1) Orientation / Sign-In / Meeting Overview**
- 2) Public Comments**
- 3) Welcome**
- 4) Industry/Organization Updates**
- 5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**
-  **6) Subcommittee Update/ Topic Overviews**
- 7) Next Working Group Meeting / Close**

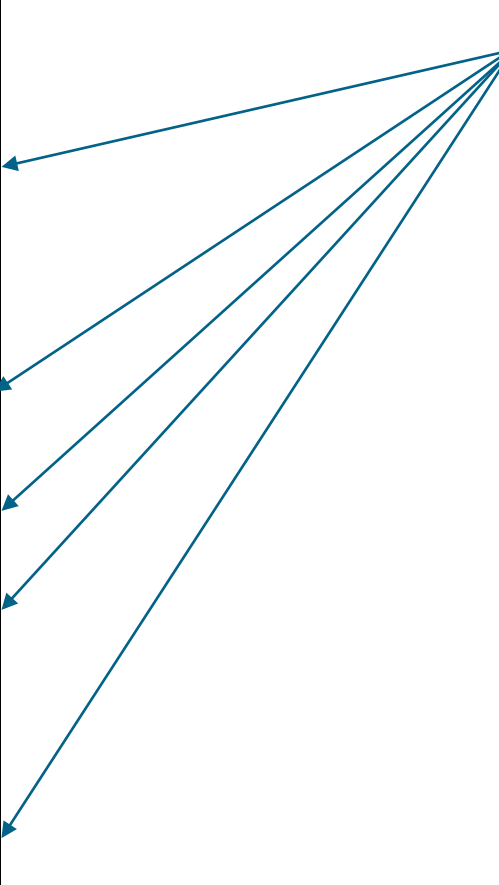
# BBR SUBCOMMITTEES



# BBR SUBCOMMITTEES

#	Topic	Name	Subcommittee
I-1	Waste Plastic Asphalt Mixes	Adam Barber	Innovation
I-2	Rubberized HMA with RAP Aggergate	Orland Mott	Innovation
I-3	High RAP mix designs exceeding 25%	Andrew Suarez	Innovation
I-4	Warm Mix Asphalt	George Freiha	Innovation
I-5	Roller compacted concrete.	Michael Smith	Innovation
I-6	Regional mix designs	Alfonso Ochoa	Innovation
I-7	RAP in ARHM	Pascal Mascarenhas	Innovation
I-8	Use of SuperPave Mix Design system for asphalt pavements	Jim St.Martin	Innovation
I-9	Dielectric Profiling System (DPS)	James Watkins	Innovation
I-10	100% Cold Mix / Applied RAP + RAS mix designs without capping with HMA	Dillon Jones	Innovation
I-11	Top layer rejuvenator to seal and protect asphalt roads before the PCI is too low	Shani Sasson	Innovation
I-12	Concrete overlays	Josh Willis	Innovation
I-13	NDT for inplace HMA compaction	James Watkins	Innovation
I-14	Recycled aggs integration into hma and concrete	Luke berry	Innovation
S-1	Cold-mixed, cold-applied, 100% RAP+RAS mix design without the need to cap with HMA	Dillon Jones	Sustainability
S-2	Very thin overlays less than 1 inch	Sam Koochi	Sustainability
S-3	Using high RAP for digouts (40%+ RAP)	Andrew Suarez	Sustainability
S-4	Full Life Cycle Assessment Tool	Michael Smith	Sustainability
S-5	FDR with then over lay	Higgy Fenagh	Sustainability
S-6	Waste Plastic Asphalt Additives	Adam Barber	Sustainability
S-7	Roadway Design Refinement Techniques	Emil Rudolph	Sustainability
S-8	A little CRM in liquid asphalt to be used in all HMA	Pascal Mascarenhas	Sustainability
S-9	Full-Depth Reclamation	Josh Willis	Sustainability
S-10	AC Additives that provide Sustainability along w/Performance	Alex Kotrotsios	Sustainability
S-11	100% RAP pavement	Alfonso Ochoa	Sustainability
S-12	Cold in place recycling	Jon Van Nyhuis	Sustainability
S-13	AB 2953 Compliance	Mohsen Maali	Sustainability
S-14	Warm Mix Asphalt	Jim St.Martin	Sustainability

Selected Topics





## **INNOVATION SUBCOMMITTEE TOPIC: REGIONAL MIX DESIGNS**

**Goal:** Develop regional mix designs for use by local agencies to improve pavements and efficiency in the San Diego region. These mixes would be in compliance with AB 2953, improve availability of material.

### **Process:**

- ❖ Local agency interest/participation and requirements
- ❖ Determine local standard mixes and uses/requirements.
- ❖ Move to superpave mix design.

### **Benefits:**

- ❖ Compliance with AB 2953
- ❖ Rapid start-up due to mix having been verified.
- ❖ Mix consistently available as well as for emergency use.
- ❖ Potential cost savings
- ❖ Potential increase in quality

**Topic Lead: Al Ochoa, Kleinfelder- [ALOchoa@kleinfelder.com](mailto:ALOchoa@kleinfelder.com)**

## INNOVATION SUBCOMMITTEE TOPIC: NONDESTRUCTIVE TESTING (NDT) OF IN PLACE HMA

- **Goal:** Develop Guidance Document that compares current HMA testing practices to proposed NDT methods and discusses a potential pilot study of the proposed methods.

### Process:

- ❖ Research NDT methods – particularly the Dielectric Profiling System (DPS)
- ❖ Compare and contrast current methods with NDT methods
- ❖ Produce a work plan for a future pilot study

### • Benefits:

- ❖ Not destructive to the road surface
- ❖ FHWA loans equipment
- ❖ Potential cost and time savings

Topic Lead: **James Watkins, County of San Diego:** [James.Watkins@sdcounty.ca.gov](mailto:James.Watkins@sdcounty.ca.gov)

## **CURRENT APPROACH – DENSITY CORING**

### **Caltrans Section 39:**

- ❖ QC testing requires 1 core to be taken every 750-ft section of pavement.
- ❖ Two density cores need to be taken for every 250 tons of HMA placed.
- ❖ Damaging of a core calls for another to be taken within 1-ft of the original location.
- ❖ Bottom line: Many cores are needed for the QA/QC process, which are expensive and create weakened areas in the road.

## **DIELECTRIC PROFILING SYSTEM (DPS)**

**Saves time, money, and resources:**

- ❖ Nondestructive to pavement
- ❖ Accurate linear measurements
- ❖ No Traffic Control permits
- ❖ Meets AASHTO and other standards and specifications
- ❖ Equipment rental comes with training and technical support

## **PILOT STUDY**

- ❖ Compare current coring practice to new technology
- ❖ Figure out who will rent the equipment
- ❖ Use on a small number of roads determined by the County of San Diego
- ❖ Will address issues that come from current coring practice



## **SUSTAINABILITY SUBCOMMITTEE TOPIC: HIGH RAP HMA**

- ❖ Implementation of higher percentage of RAP in HMA is crucial
- ❖ It is the responsible thing to do!
- ❖ From 1981 – 2010 180m tons of virgin aggregates were consumed.
  - ❖ Burning 47 million gallons of diesel fuel
  - ❖ 520,000 tons of CO2 were generated.
- ❖ National RAP usage increased from 15.6% in 2009 to 21.1% in 2021.
  - ❖ This represents 26m barrels of asphalt binder and
  - ❖ 90m tons of virgin aggregate.
- ❖ By utilizing RAP we will help offset the consumption of virgin aggregates and virgin binder while mitigating environmental impacts that go along with the production of these virgin materials.

## **SUSTAINABILITY SUBCOMMITTEE TOPIC: HIGH RAP HMA**

- ❖ Implementation of higher percentage of RAP in HMA is crucial
- ❖ The Industry is heading in this direction
  - ❖ Many agencies are headed in this direction.
  - ❖ Caltrans is exploring higher RAP mix designs(40%) and has been since 2014. High RAP pilot projects are currently being identified and many will start very soon.
  - ❖ Its doable - City of New York allows 100% RAP mixes and commercial projects must utilize a minimum of 30% RAP.

## **SUSTASUSTAINABILITY SUBCOMMITTEE TOPIC: HIGH RAP HMA**

**Goal:** Develop High RAP Mix Designs for use in the San Diego Region.

**Process:**

- ❖ Research state of the practices
- ❖ Detail required modifications to current specifications
- ❖ Complete pilot study to determine most beneficial use

**Benefits:**

- ❖ Compliance with AB 2953
- ❖ Potential use of sustainable treatments
- ❖ Cost Savings

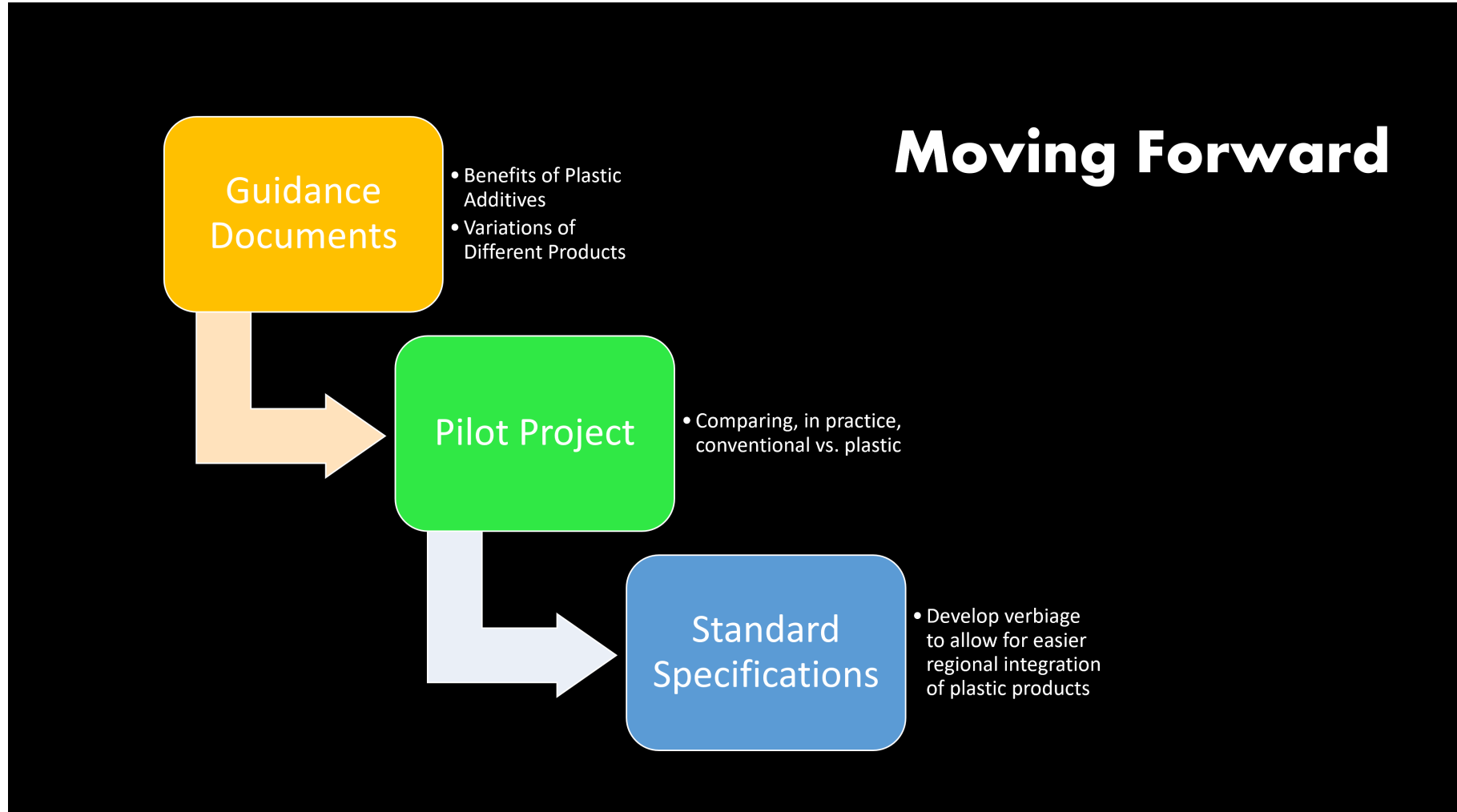
**TOPIC LEAD: Andrew Saurez, Martin Marietta: [Andrew.Suarez@MartinMarietta.com](mailto:Andrew.Suarez@MartinMarietta.com)**

**SUSTAINABILITY SUBCOMMITTEE TOPIC: WASTE PLASTIC ADDITIVES IN HMA**

**Common Benefits & Variances**

Manufacturer	Primary Introduction Method	Waste or New	Rejuvenator	Additional Tank Space	Mix Time
1	Dry Process	Waste	Yes	No	No Difference
2	Dry Process	Waste	No	No	No Difference
3	Wet Process	New	No	Yes	Increased

## SUSTAINABILITY SUBCOMMITTEE TOPIC: WASTE PLASTIC ADDITIVES IN HMA



TOPIC LEAD: Adam Barber, The Sparks Co: [Adam@thesparksc.com](mailto:Adam@thesparksc.com)

## **SUSTAINABILITY SUBCOMMITTEE TOPIC: AB 2953 COMPLIANCE**

**Goal:** Develop Guidance Document for local agencies detailing the requirements for AB 2953 Compliance.

**Process:**

- ❖ Research AB 2953
- ❖ Detail required modifications for agencies that do not use the Caltrans Standard Specifications
- ❖ Produce a clear, concise guidance document


**Benefits:**

- ❖ Compliance with AB 2953
- ❖ Potential use of sustainable treatments

Contact: [orland.mott@sdcounty.ca.gov](mailto:orland.mott@sdcounty.ca.gov)



# AGENDA

- 1) Orientation / Sign-In / Meeting Overview**
- 2) Public Comments**
- 3) Welcome**
- 4) Industry/Organization Updates**
- 5) Key Presentation: Concrete Overlays of HMA Pavement- Michael Smith, CEMEX**
- 6) Subcommittee Update/ Topic Overviews**
-  **7) Next Working Group Meeting / Close**

## **NEXT WORKING GROUP MEETING / CLOSING COMMENTS**

- Mid October 2023
- Next Steps
  - Local Agency Paving Program Updates
  - Subcommittee Topic Group Implementation
  - Pilot Study Updates
- Closing Comments

**BUILDING** *San Diego County*  
**BETTER ROADS**



**MEETING ADJOURNED  
THANK YOU FOR ATTENDING!**

