

***Rapid Asphalt
Production/Construction ~~Controls~~
Feedback – PCF
Part 4 - e-Circular***

**Sept. 21, 2017
Bozeman, MT**

ETG Construction Task Force

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Kevin Hall – UAR

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Dave Newcomb – TTI/TAMU

Production/Construction Feedback

- PCF – controls and devices designed to provide rapid feedback to the user to improve the *density* and hence the performance of asphalt pavements.

Production/Construction Feedback

- **Areas of concern to achieve *Pavement Density*:**

- **Design**

- » Structure

- » Mix

- **Materials**

- **Specifications**

- **Construction**

- » Equipment

- » Feed back

- **Aggregate moisture**

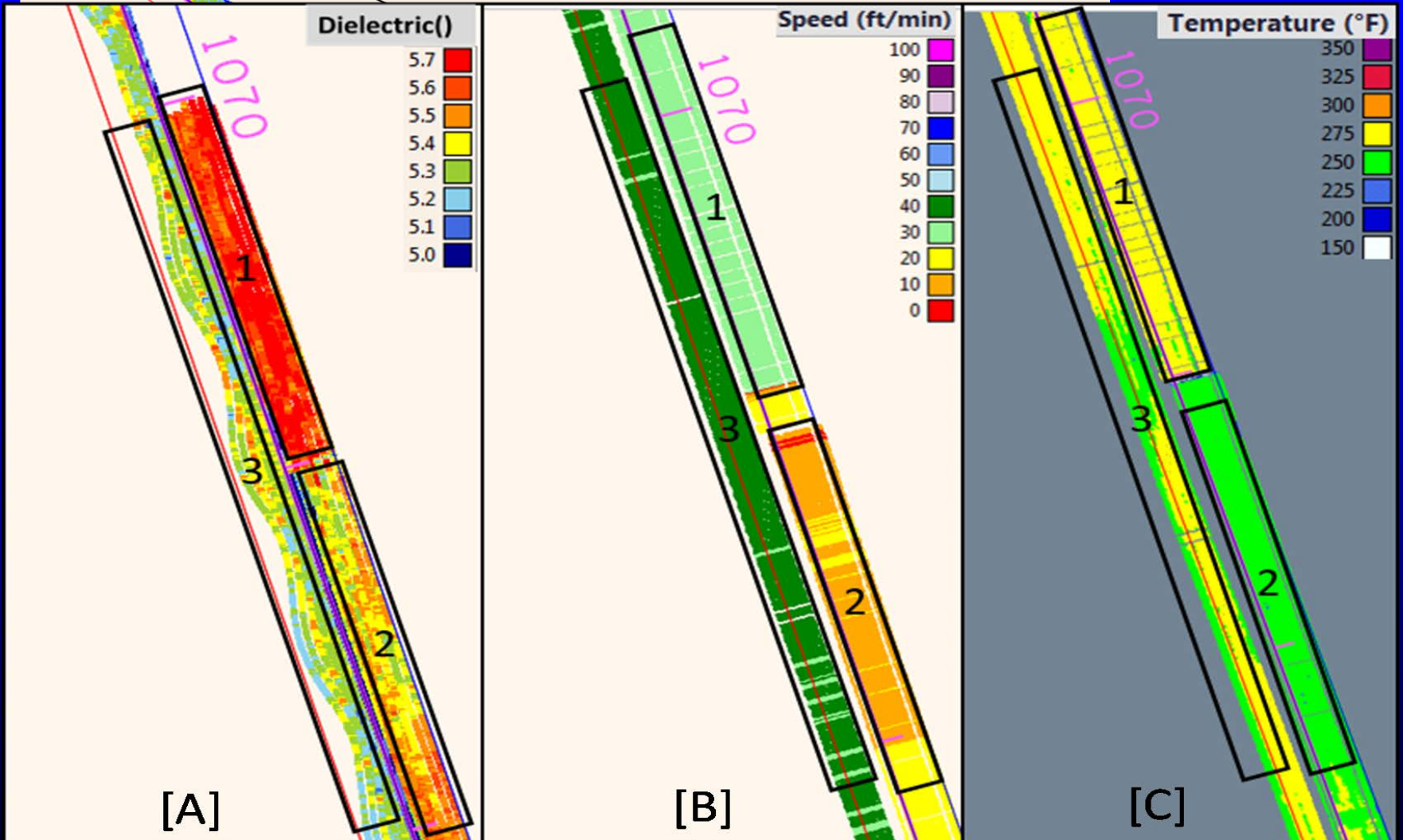
- **Asphalt Sampling**

- **Compaction**

Need:

Defined Boundary Conditions

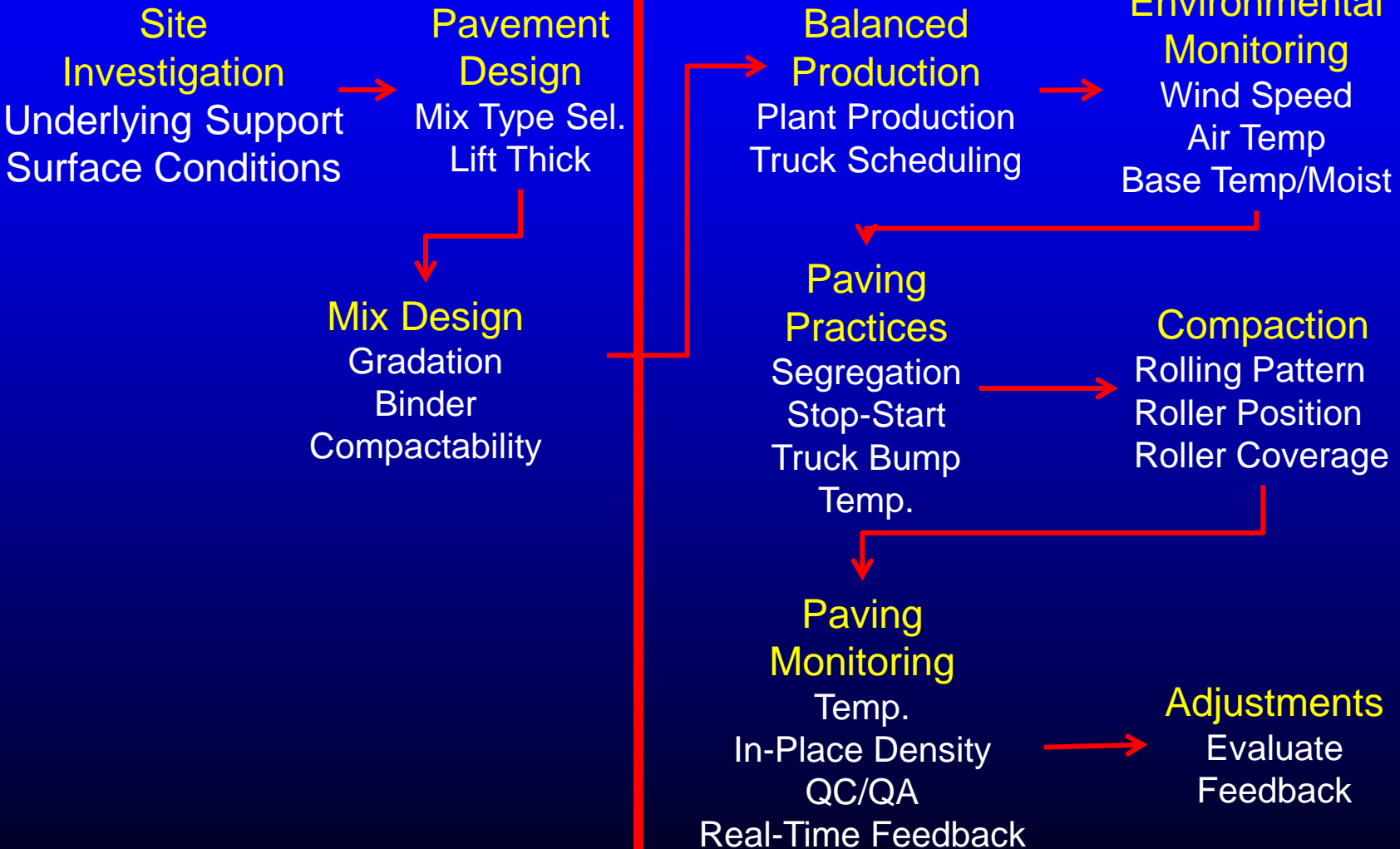
RDM
and IC
Data



Compaction Improvement

Pre-Construction

Construction





IICTG 2017 Conference

Sept. 26-28, 2017

Minneapolis, MN USA

- Integrated Intelligent Construction solutions
- Intelligent Compaction
- Paver-Mounted Thermal Profiling
- Continuous Asphalt Density Measurement
- 3D Modeling and Automated Machine Guidance

SHRP2 Rapid Technologies to Enhance Quality Control on Asphalt Pavements
GPR Rolling Density Meter (RDM) Peer Exchange

MnDOT Bridge Office
3485 Hadley Ave N
Oakdale, MN 55128

October 24 - 25, 2017



Association of Asphalt Paving Technologists

2018 - Jacksonville, FL
March 18-21

PCF – e-circular

What is needed:

- **References - pavement density**
- **Schedule:**
 - **References to Lee by Nov. 17**
 - **e-circular draft**
 - **TG Conference call Dec.**
 - **Review by Mix ETG at April meeting**

Compaction e - Circular

**FHWA ETG Taskforce on Construction
TRB AFH60 Committee**

Basic Outline of Compaction Document

- **Executive Summary:**
 - To be developed with the end user (managers of the DOT's) in mind.
 - Importance of Compaction
 - A short course of asphalt pavement variabilities
 - 5-7 pages
- **Background:**
 - Providing a time line from the 1929 AAPT to the 2017 FHWA Document on compaction.
 - Set the Stage on what should be done to get long life projects
 - Limited discussion on Laydown Equipment (will need industry help)
 - 10 pages

- **Agency Concerns:**
 - Include the AI work on how to measure densities and their results
 - How to support moving forward without breaking the bank
 - New technologies (summary)
 - NTE 5 pgs
- **Contractor Concerns:**
 - Production, Production, and Production
 - QC vs Process Control
 - New Technologies and how to get the message out, (NCAT and NAPA very important here)
 - NTE 5 pgs

- **Specifications highpoints for best practices to get good compaction and long life.**
 - Knowing that state specifications vary across the country, try to identify the low hanging fruit that can be included.
 - I don't believe including a few state examples
 - Include mat thickness, temperature, pavers, rollers
 - Include PWL, rolling density meters, IC-IR (From FHWA report, etc.)
 - Try to keep it to 8-10 pages
- **Summary**
 - More than one way to skin the cat

- **Conclusions/Recommendations:**
 - Include AI, NCAT, NAPA targeted areas for improvements.
 - Include a listing of publications, reports, etc. not only as documentation for the work, but as go to documents for more discussions and validation by agency managers
 - Include locals government efforts
 - Support FHWA Tech Brief Development on Compaction (FHWA -Tim)
- **Acknowledgements:**
 - FHWA ETG, TRB, and all the Asphalt associations
- **References:**
 - Needed more reports, publications, papers, etc.
- **Reviews:**
 - ETG Taskforce to review in November, TRB Committee in December

Thank You & Feedback

- Questions
- Suggestions
- Thoughts

