MEETING MINUTES
AASHTO Subcommittee on Construction
Annual Meeting
August 13, 2017 – August 17, 2017
Hyatt Regency Cincinnati
Cincinnati, Ohio
Monday August 14

8:00 AM – 9:30 AM Opening Session

Welcome to the SOC- Malcolm Dougherty, Subcommittee Chair, Caltrans Director
- Thank you to Ohio DOT
- Emphasized importance of AASHTO’s role throughout the country
- Thank you to David Hoyne and Section Chairs for all their work throughout the year
- Emphasized importance of safety in the work we do
- Emphasized need for robust transportation funding on the Federal side
  - CALTRANS Revenue Program and impact on amount of work throughout the state
    - Industry capacity and workforce development will become very important conversation
    - E-construction, real-time traffic management, use of UAVs, CMGC, JOC, innovative delivery methods, 3D modeling will all continue to play a great role in the delivery of projects

Welcome to Ohio- Jim Barna, ODOT Asst. Director & Chief Engineer
- Malcom Dougherty introduced Mr. Barna.
- Introduction on Ohio and Cincinnati- History and fascinating facts
- Brent Spence Bridge Project between Ohio and Kentucky
- Transportation Facts about Ohio
  - One day drive to 60% of North America’s population
  - 14 Metropolitan Areas
  - 5th in Vehicle Miles Traveled
  - 4th largest interstate system (lane miles)
  - 2nd largest number of bridges
  - $2.33 billion- Construction budget
    - 1098 projects
    - 26 major projects
    - 93% preserving the existing system
    - 7% enhance capacity
  - Emphasized the importance of work zone safety

FHWA Welcome – Laurie Leffler, Division Administrator, FHWA Ohio Division
- Malcom Dougherty introduced Laurie Leffler
- Oversight of $1.2 billion Federal budget in Ohio
- Welcomed everyone to Ohio and provided a few details on what to see in Cincinnati
- Try goetta! Visit Porkopolous!
- 1st city to build and own a major railroad

AASHTO Update – Evan Rothblatt
- Malcom Dougherty introduced Evan Rothblatt and importance of his role with AASHTO
- Thanked the members and expressed the importance of being involved and staying involved
• AASHTO Reorganization Discussion
  o Fall Standing Committee on Highway
    ▪ Last meeting. Moving forward it will become the Transportation Policy Forum
  o AASHTO SOC will become Committee on Construction
  o Trying to ensure cross-pollination between the committees
  o All committees will update their documentation:
    ▪ General Purpose Statement
    ▪ Committee Charter- December 2017
    ▪ Committee Strategic Plan- April 2018
    ▪ Websites have been updated- Information archived after 5 years
• Stressed importance of the role of research with the SOC
• Technical Services Programs
  o TC3 and NTPEP
  o AASHTO Product Evaluation List
  o AASHTO Innovation Initiative
  o Equipment Management Program

SOC Self Introductions – Subcommittee Members

![Figure 1: Green indicates the states that attended the SOC meeting](image)

The meeting included attendees from 44 states, the District of Columbia, industry and academia.

**9:30 AM – 9:45 AM Break**

At this point, a 15-minute break was taken.
9:45 AM – 11:45 AM  General Session

Moderator: David Hoyne, Subcommittee Vice Chair, VAOT Director of Construction and Materials
Mr. David Hoyne, Vermont AOT and Vice Chair of the Subcommittee opened the General Session. He introduced the speakers below.

Veterans Memorial Highway: Tom Barnitz, ODOT; Chad Ratkovic, Lead Contractor Deputy Project Manager, Portsmouth Joint Venture; Hugo Fontirroig, Lead Contractor Deputy Project Manager, Portsmouth Joint Venture

- P3 Project in Sciota County, Ohio- 16 miles, 4-lane limited access highway through mountainous terrain with 22 structures,
- https://www.pgg823.com/
- Purpose: Further development of the Appalachian Highway System for movement of people, goods and services.
- Using P3 accelerated the project by 17 years. Single phase instead of 3 phases. Pushed risk over to private industry.
- TIFIA Loans and Private Activity Bonds
- 20+million cubic yards of excavation and embankment
- 1M square yards of asphalt pavement
- 35-year operating period
- Construction Period: 3 years, 8 months
- Substantial Completion: Dec. 2018
- 350 craft personnel at peak
- More than 1 million man-hours worked to date
- Over 350 pieces of major equipment
- Developer perspective:
  - Provides fixed price- $430 Million
  - ODOT repays developer in monthly payments over the 35-year operating period subject to deductions for availability and performance.
  - After 35 years, developer gives roadway back to ODOT in proper condition.

Q: Are you concerned with the developer specifications? Robust vs. size?
A: Portion of the project is built to ODOT specs (where tie-ins are). Challenging to change specifications because of suppliers and sub-contractors.

Q: Why such a long payback period?
A: $540 total capital investment. ODOT set standard with timeframe. ODOT used a financial advisor to help develop timeframes. Most P3 projects are 30-35 years. Developer owns risk for majority of time.

Q: Who acquired ROW? How long? When was it acquired?
A: ODOT had been purchasing ROW prior to P3 development. All ROW and environmental permits were available to developer once they were chosen.

Q: Any technologies to highlight that were used during construction?
A: Partnering was key. Co-location was very important of design, developer and ODOT. Earthwork used machine controlled GPS. Set-up Wi-Fi system over project for updates to plans.
Aerial technologies used for confirm volumes, slopes, elevations, etc. Helped to oversee entire project.

**Ohio's Smart Corridors: Preparing Solutions for a Smart and Connected World:** Andrew Bremers, Deputy Director of Strategic Initiatives & Programs, ODOT

- **Why?**
  - To improve congestion and safety
- **Collect, manage and use data to affect change**
- **Real-time traffic management**
- **Goal: Develop interoperability standards for Ohio**
- **Goal: Comprehensive ROW policy**
- **Regulations: open road testing verification, fully autonomous vehicle testing and home rule (roads throughout state and local system)**
- **Happening now:**
  - SmartLANE, Smart Mobility Corridor, Smart Freight Corridor, Lake Effect Corridor, Ohio Turnpike, Smart Work Zones
  - DSRC and high speed fiber optic cable throughout corridors

**Smart Columbus Overview:** Katie Ott Zehnder, HNTB Ohio Office Leader

- **Columbus won $40 million USDOT Smart Cities Grant and $10 million Vulcan grant. City of Columbus wants to dedicate up to $1 billion towards the project.**
- **15 projects in 4 districts**
  - Autonomous vehicle
  - Parking and delivery zones
  - Intersection improvements
  - Connection to employment and health
  - Truck platooning, oversized vehicle routing and interstate truck parking
- **Performance measures**
  - Safety, mobility, ladders of opportunity, climate change, agency efficiency, customer satisfaction

Q: How does distracted driving factor into the program?
A: Measurements of crash and fatality rates. Reporting of distracted driving is not totally clear yet. Working with law enforcement on this. Accurate data is key. Delivery and trucking firms
Q: Any collaboration with freight rail?
A: Only initial conversations at this time. Smart crossings are being considered.
Q: Any deployed devices in work zones?
A: Have chosen corridors to review.
Q: What is the average vehicle age in Ohio? What vehicles are needed?
A: SmartColumbus and ODOT are looking into installing equipment on vehicles.
Q: How many states are doing similar work as Ohio?
A: Handful of states.

**Federal Highway Administration Update:** Rob Elliott, FHWA

- **Regulation reform**
  - Reduction of regulation- 2 removed for every 1 new regulation
- **Update in new Administration**
Secretary Elaine Chao
FHWA Deputy Administrator- Brandye Hendrickson from Indiana

- OIG involvement within USDOT
  - Review FHWA’s Oversight of Engineer’s Estimate
  - Review of FHWA’s Oversight of Force Account Procedures
- FHWA to step down as Secretary in SOC
- Risk-based Stewardship and Oversight
  - Missouri Example
- Doing more with fewer resources
  - Tech Brief to be published September 2017
- Innovation Deployment Areas
  - AID Funding
  - STIC Incentive Funding
  - MAP-21 Section 1304 Innovative Project Delivery Funding
  - E-construction and partnering
  - 3D Engineered Models
  - Bridge bundling
  - Flexibility of funding sources used for off-system bridges
  - Risk-based estimating- FHWA developing course

**NTPEP Update:** Brad Young, P.E., New Products Engineer, ODOT
- Overview of NTPEP and its duties [www.ntpep.org](http://www.ntpep.org)
- NTPEP sees the need to simplify the product evaluation
- How NTPEP Works
- Benefits of NTPEP
- Getting Started with NTPEP
- NTPEP DataMine
- NTPEP Annual Meetings

**11:45 AM – 12:15 PM   State Discussion Topics**

Moderator – David Hoyne, Subcommittee Vice Chair, Vermont AOT
At this point, Mr. Hoyne opened up the meeting for State Discussion Topics (See Appendices C, D and E for Questions and Answers discussed). The Subcommittee then adjourned for lunch.

**12:15 PM – 1:15 PM   Lunch**

**1:15 PM – 3:15 PM   Section Group Meetings**

After lunch, Section meetings were held as follows:
- Safety, Environmental and Workforce Development  
  - Canyon/Lake
- Integrated Construction and Technologies  
  - Obsidian/Dunraven
- Roadways & Structures  
  - Lamar/Gibbon
3:15 PM – 3:30 AM  Break
At this point, a 15-minute break was taken

3:30 PM – 4:00 PM  Section Chair Reports

- Contract Administration: Gary Angles (Ohio DOT)
- Integrated Construction and Technologies: Joe Squire (Oregon DOT)
- Roadways and Structures: Marc Mastronardi (Georgia DOT)
- Safety, Environmental and Workforce Development: Rob Wight (Utah DOT)

4:00 PM – 5:00 PM  Can a Contractor Be Entitled to a Time Extension If the Delay Is Not Critical?
Mark Nagata, Director/Shareholder, Trauner Consulting Services, Inc

- Schedule Delay Analysis Standard has been updated by ASCE
- The change will impact the Schedule Spec- 108.05
- “Offsetting delay” concept was introduced. This means that owner caused delays occurring after contractor delay may mitigate the assessment of liquidated damages.
  - Concurrent delay argument was presented
  - AACE No. 29R-03 provides guidance on concurrent delay
  - Definition of concurrency
    - Literal vs. functional concurrency
- Mr. Nagata concluded that States should review their time extension and schedule specifications and be aware of the ASCE changes.

5:00 PM  ADJOURN
The meeting was adjourned for the day by Mr. Hoyne at 5:00 pm.
Partnership Survey and Handbook NCHRP 19-10: Douglas D. Gransberg, PhD, P.E., Professor of Construction Engineering, Iowa State University, Gransberg and Associates

- Conclusions:
  - Partnering works
  - Formal partnering not always necessary
  - Several DOTs had tried but stopped using formal partnering
  - Some DOTs have institutionalized the principles of partnering as routine business practices
    - Dispute resolution ladders
  - Identified 21 cases where some of the partnering agreement was referenced as proof of a binding responsibility.
    - “Nonbinding” partnering agreements and charters are part of the official record and discoverable in litigation.
  - Partnering has evolved into three levels of partnering intensity:
    - Formal Partnering- external facilitator
    - Semi-formal partnering- trained internal DOT facilitator
    - Informal Partnering- facilitated by DOT project personnel
  - Partnering organizational maturity can be measured
  - New handbook will include alternative contracting methods
  - Is highly dependent on the maturity of the organization
  - Get stakeholders together as early as possible

- Principles of Partnering
- Partnering Process Model
- No “one size fits all” process
- Alternative Delivery and Partnering
  - CMGC, DB, P3,
- Future: binding partnering agreements, alliance contracting (Australia)

Comment: Partnering doesn’t change the contract provisions. May need to be added to via change order.

Q: Do formal partnering sessions help bring a partnering culture to organizations?
A: Yes. Formal partnering sessions can act as a training for DOTs and will benefit future projects.

Dayton, Ohio I-75 Partnering Project: Scott LeBlanc, P.E., ODOT Area Engineer; Tom Graf, Kokosing Construction Company

- Overview of the project:
  - Removal of left hand ramps, increase ramp spacing, lane continuity, structure replacements, interchange improvements
  - Kokosing- Contractor
HNTB - Designer of Record

5 year, $125 million contract
Lump sum minus incentives used
No Excuse Incentive (NEI) used
  $3 million for project completion 1 year early

Contractor Perspective:
Made the decision to go for the NEI.

MOU between contractor and ODOT generated a protocol to handle possible issues late in the project.
NEI moved the risk from ODOT to contractor
  Benefits to the schedule
  Benefits to quality

Partnering helped to balance the risk.
  Working with designers
  Co-location, close work with partner agencies (environment),

Value Engineering Change Proposal (VECP)
Two VECPs on the project.
  Redesigned 9 structures
    Steel to concrete beams
    Reduction of spans
  Generated $2.6 million in shared savings

Partnering culture
Picking your team becomes very important
  Personality, temperament, previous relationships
  Availability, expertise, experience
  Singular focus for all parties
  Trust and respect paramount
  Importance of the common good
  Understanding each other’s business models is important

Q: Was it originally set up as a DB project?
A: No. It was always a three-phase mega project at DBB.
Q: What was the justification for a NEI?
A: ODOT felt that the size of the project dictated the early completion.
Q: Tell us about the decision makers on site, for instance with change orders.
A: Change orders were written on site by the ODOT Project Manager and emailed to expedite.
  1-1.5 weeks to get a written copy. 4-5 weeks to completely process.
Q: How important was the VECP in pursuit of the NEI?
A: Mixed bag. Both were a lot of work.
Q: Why wasn’t a graduated incentive/disincentive used?
A: Typical ODOT projects used daily incentives. The NEI was needed for a large time change.
Q: Did FHWA support the lump sum NEI payment?
A: Yes, at the time of approval in 2012.
Q: Were excuses allowed for the NEI?
A: No excuses were allowed for NEI.
At this point, a 15-minute break was taken.

10:15 AM – 12:00 PM  Contract Administration Session

Lessons Learned from Procurement Protests: Shailendra Patel, P.E., DBIA, Division Administrator Alternative Project Delivery, Virginia DOT

- Overview of VDOT DB & P3 program
- What is bid protest?
  - Post-award protest- a challenge to the award or proposed award of a contract for the procurement of goods and services
  - Pre-award protest- a challenge to the terms of a solicitation
- Purpose of bid protests
  - Ensure integrity
  - Provides transparency
  - Encourages participation in government contracts
  - Protects public from fraud and abuse
- Timing of bid protests
  - Timing requirements vary among states
- Grounds for protests
- Virginia Case Study
  - 460 Connector- Bristol, Virginia
    - $100 million multi-lane road with new structures
  - Project de-railed by lawsuit from 2nd place bidder
    - Five grounds to protest
      - VDOT lost of protest of resume requirements
      - VDOT needed to re-bid the project
- Lessons Learned
  - VDOT updated all DB procedures
  - Added training for RFP evaluators
  - VDOT provided more time and resources for Technical Proposal Evaluations
  - Do not award project until protest is resolved
  - Expect a protest when lowest price doesn’t win in best-value selection
  - Define limited number of pertinent “differentiators” for each project
  - Own your mistakes and take corrective action quickly
  - Be as explicit and as objective as possible with all evaluation criteria
  - Limit bid submittal to essential documents
  - Include order of precedence
  - Do not limit agency’s discussion
  - Reserve rights to reject bid
  - No way to foolproof any procurement.

Q: Did the first bidder have a claim against VDOT?
A: No. VDOT paid bidder for efforts after the first bidder.

Q: Were price and proposal submitted at the same time?
A: At that time, they were received at the same time. VDOT now waits to receive prices.

Comment: Award after the injunction level to give agencies more support in court.

Q: How much time delay?
A: About one year between both awards.
FHWA and Performance Related Specifications for Concrete Pavement: Katherine Petros, FHWA

- Focus on material performance as opposed to means and methods to allow the contractor to innovate during the construction of the project.
- Shadow projects using standard and performance related specifications (PRS) on the same project.
- Any interest in a shadow project should contact Katherine Petros at Katherine.Petros@dot.gov or Richard Duval at Richard.Duval@dot.gov.


- Overview about the Illinois Tollway & I-90 Project
  - Toll funded highway network in suburban Chicago
  - User-fee system. No state or Federal funding
  - I-90
  - 4-year delivery of $2.5 billion project
    - 62 miles of roadway
- Performance Related Specifications (PRS)
  - Goal of PRS is to compare life-cycle cost analysis to as-built construction cost and the difference between are rational pay factors that measure the value of the quality of project.
  - Need to determine what qualities are being measured
    - Characteristics
      - Measurable
      - Must correlate with performance
      - Must be under contractor’s control
  - PRS Implementation was a process
  - Acceptance Quality Characteristics (AQC) with a target, rejectable level and maximum level using random sampling.
    - Compressive strength
    - Air
    - Thickness
    - Smoothness
    - Dowel Alignment
  - E-Construction processes were in place for data management
  - Education and training became key to new specifications
- Construction
  - Day before processes need to be in place
  - Day of processes needed to be in place
- Benefits of PRS
  - Improved design-to-construction communication
  - Develop more rational pay factors
  - Improved and focused testing by all parties
  - Improved understanding of performance by all
  - Improved quality focus
Clearer distinction in roles and responsibilities
Creates a more innovative environment

Q: How was the pavement striped in the winter?
A: Temporary until the spring.

Q: The year 2 pavement smoothness was still not great. Please expand.
A: Smoothness is a difficult requirement to attain. Pay factors were established by design IRI. Changes were made for year four pay factors. Incentives weren’t large enough to force contractors to grind to maximum pay factor.

Q: Can you explain how I/Ds were related to pavement incentives?
A: Design life cycle costs were compared against as-built conditions using FHWA’s PaveSpec software.

12:00 PM – 12:15 PM  AASHTOWare Update
Jim Johnson, AASHTOWare Project Manager
• AASHTOWare Project 4.0- September 2017
• AASHTOWare Project 4.1- June 2018
• Info Tech Mobile Inspector App
  o Need to have SiteManager 13.1 or above to use
• Exploring data exchange with paperless ticket systems
• Project Preconstruction
• Project Bids
• Project Civil Rights & Labor

Comment: Please release new systems during non-peak construction times.
Comment: The two-year notice about reduction of services caught the states off-guard.

12:15 PM – 1:15 PM  Lunch

1:15 PM – 1:30 PM  SOC Chair Update- Malcom Dougherty Update
• Has enjoyed the presentations thus far and will be taking information back to California
• High Level View:
  o Safety
    ▪ Work zone safety task force
    ▪ Presence of law enforcement
  o Importance of Partnering and Conflict Resolution
    ▪ Increase in workload in the next few years
    ▪ Increase in price, decline in number of bidders
    ▪ Labor difficulties
    ▪ 55 hour closures when possible
      • Increased productivity
      • Increased safety
      • High level of outreach necessary

Q: How are the 55 hour closures going?
A: They have been very successful when projects are planned well and outreach is performed.

Q: How does DMV respond to 55 hour closures?
A: The agency just needs to know in advance.
1:30 PM – 3:15 PM  Roadways and Structures Session

Moderator – Marc Mastronardi, P.E., Director Construction Division, GDOT

Cleveland Inner Belt Project
- Overview of the project and the challenges that were overcome
  - Value-based design build project
  - Permits, Railroads and protected birds
  - Accelerated work schedules in work windows
  - Night work coordination with downtown events
  - ATCs included in the project
  - Post-bid Innovation

Q: Was there a settlement and vibration monitoring specification?
A: Yes, with both contracts.

Q: Was there a risk process?
A: In contract 1, risk was only brought up during progress meetings. In contract 2, a risk registry was developed.

Q: Who were the designers?
A: HNTB & URS/AECOM were the designers.

Q: How much ARRA funding was used?
A: $200 million

Louisville Southern Indiana Ohio River Bridges Project:
Rob Harris, P.E., Asst. State Highway Engineer, Kentucky Transportation Cabinet (KYTC)
- Overview of the project and the challenges that were overcome
  - One project, two bridges between Louisville, KY to Indiana over the Ohio River.
  - $2.6 Billion
  - Kentucky- DB project
  - Indiana- P3 delivery method
- Lessons Learned
  - Well defined basic configuration and aesthetic requirements in the RFP, giving boundaries with room to innovate
  - Robust consultant technical review team
  - Co-location of KYTC staff and contractor
  - Robust public information team from KYTC and contractor
  - Underlying spirit of partnering

3:15 PM – 3:30 PM  Break
At this point, a 15-minute break was taken

3:30 PM – 5:15 PM  Roadways and Structures Session

New and Emerging HMA Technologies and Proven Pavement Preservation:
Dr. Raymond “Buzz” Powell, P.E. of NCAT; Benjamin Worel, P.E., MnRoads

- Overview of work being performed at MnROAD and NCAT
  - MnROAD
    - HMA/PCC/Composite Pavements
  - NCAT
    - HMA

- Overview of what is being worked on at both research facilities and the benefits of their partnership

- Development of a national cracking test
  - Test sections at both facilities (northern and southern climates)

- Review of technologies
  - Rolling density meter
  - QC/QA Preservation Testing

- Goals
  - National study (climatic zones)
  - Provide consistent data collection/analysis
  - Life extension benefits

Q: Any high friction work on the track currently?
A: Yes. FHWA is funding asphalt based friction alternatives to epoxy boxite surfaces.

Q: Are you still using human drivers?
A: Yes. Professional drivers. Have considered automated vehicles. Concerned about wheel path destruction without wheel path wandering.

**Resource Agency Considerations for Demolition:** Jacqueline Pearson-Meyers, NOAA; Rachel Falsetti, Director of Construction, Caltrans; Anthony Sarhan, SD-POM, FHWA

- Present on the national discussion of the removal of marine foundations.

- Demolition of the Bay Bridge Project
  - New Bay Bridge opened in 2013.
  - 2014-2016 Superstructure removal
  - Controlled implosion of substructure into caissons.
    - Many permits needed
    - Protected species - fish, birds, mammals
    - Blast pressure
      - Reduction of 80% because of blast attenuation system (bubble curtain)
  - Simulation and video of implosion

- National Overview of NOAA’s National Marine Fisheries Services

- Case Studies
  - 520 Bridge
  - Minette Bridge
  - Sarah Mildred Long Bridge - Maine

- Next Steps:
  - Collaborate with Resource Agencies!

5:15 PM ADJOURN

The meeting was adjourned for the day by Mr. Hoyne at 5:15 pm.
Report on Scan 15-01 Inspection Competence and Training: Jeff Lewis, Construction and Contract Administration Engineer, FHWA Office of Technical Services/Resource Center

- Jeff conducted an experiment to see the age and retirement plans of attendees. Majority of attendees retiring in fewer than 10 years.
- Overview and conclusions from the AASHTO Scan 15-01. Report to be published in Fall 2017.
- Purpose of Scan: Investigating programs, focusing on lead states, counties, metropolitan areas, municipalities and other transportation agencies adoption of teaching and learning methods.
- Critical Areas of Concern Discussed

- Findings:
  - Use of consultants varies widely across the country.
  - Presenting states developing and/or converting content for online delivery.
  - Presenting states use a broad mix of delivery methods.
  - Creation of an instructor certification programs for SMEs is critical for competency development.
  - Manuals and guidance publications are shared electronically and in print.
  - Incorporate mentor programs into performance management/employee development program/cycles
  - Industry

- Conclusions:
  - Presenting states were divided on the topic of training consultants.
  - A well-defined scope, audience analysis, defined learning objectives need.
  - Effective training programs leverage a combination of different modalities or a blended approach to training delivery.
  - Utilizing field SMEs demonstrated to be effective and more beneficial for the student.
  - States use both electronic and hard copy versions for effective development efforts.
  - Most presenting states support mentoring as a method for inspector development

- Recommendations:
  - Develop or adopt certification programs for internal and consultant inspectors.
  - Use an instructional design framework in the development of inspector course materials.
  - Use various modes of training delivery based on agency resources, geography, generational differences, learning styles and content.
  - Developing a pool of SMEs for the development and delivery of training content.
Explore other state transportation agencies use of manuals and publications for adaptation to use in training.

Comment: Millennials tend to prefer expanding their corporate network over climbing within the same corporation.
Comment: Millennials don’t use manuals; they prefer on demand learning.
Q: Has there been any discussion using experienced workforce to build a scalable knowledge base?
A: Understanding the audience is very important before document is published. Acknowledge that each employee is an individual and has different learning styles.
A: TC3 has many online trainings that AASHTO members can use.
Comment: Pennsylvania- Future Road Builders industry online training. SimCoach Technology. https://www.futureroadbuilders.com/
Comments: Building things into a game creates healthy competition between people. Gamification as an effect training method.
Q: Has HR changed anywhere to keep up with the times?
A: Several states on the scan mentioned there is a need to update recruitment policies. The scan did not focus on this area too heavily.

9:00 AM – 9:30 AM  Integrated Construction & Technologies Session

Moderator: Joe Squire, P.E., Section Chair, State Construction and Materials Engineer, Oregon Department of Transportation

Intelligent Design and Construction (IDC) at UDOT: Rob Wight, Director of Construction, Utah DOT

- Why 3D and intelligent design and construction?
  - 3D design to 2D plan sets to bid/construction
  - Benefits of 3D Modeling
- Reasons to use IDC
  - Savings in design and contractor effort
  - Opportunities to lower bids with more accurate models
  - Create models with asset management in mind
- Utah’s Road to IDC
  - Goals:
    - Advertise 3D models as the contract documents
    - Use CIM on projects
    - Make it easy to use
    - Electronic as-built data
- Pilot projects with a purpose
  - SR-20
    - CMGC climbing lane project
    - Convert Bentley model to Trimble- Infrastructure Consensus Model (ICM)
      - Provide ICM models to bidders
- Bentley Navigator was promising as a 3D viewer
  - Field viewer for models
  - Determine how to verify grade when there aren’t any stakes
- I-70 Project Visit
  - DBB delivery of interstate rubberization and asphalt overlay
  - Model was legal document
  - GIS solution for developing as-builts
  - Bidding procedure worked well
  - Need better process for model acceptance
- Other Efforts
  - Contractor summits, interviews
  - GIS “smart model” solutions
  - 3D design standards
- Next Steps
  - Right sizing CIM and IDC solutions for projects
  - Communications plan for rollout throughout the state

Q: What do the lawyers say about the electronic contracts?
A: Files are on a contractor accessible site. Under Utah Law this is an acceptable document.
Comment: Contractor perspective- Using PlanGrid for onsite collaboration has been important.
3D modeling is moving very fast. Find that the younger employees will be leading the way with this project.
Q: Are utilities included in as-builts?
A: Working towards this. Utilities will become most critical piece.
Q: Are Bentley and Trimble working on standard integration methods?
A: UDOT has brought them together with the contractors in order to refine software and improve software.
Comment: Bentley, AutoDesk, ACEC, AGEC are working on
Q: What equipment was used? Who owned it?
A: Rover purchased by contractor. UDOT has own iPads.
Comment: concern about the rapidly changing equipment technology.
Comment: Most UDOT contractors
Q: If the model is provided during the bidding period, do the contractors get more time to bid?
A: UDOT- Yes, bid period was extended to around 4-6 weeks. There was a pre-bid meeting.
A: Oregon- Seeing contractors convert models to XML
Q: Did contractors need to add layers for machine guidance?
A: Unknown (presenting the work of others). Do need more layers for intersection work.

9:30 AM – 9:45 AM Break
At this point, a 15-minute break was taken.

9:45 AM – 11:45 AM Integrated Construction & Technologies Session
Moderator: Joe Squire, P.E., Section Chair, State Construction and Materials Engineer, Oregon Department of Transportation

Mobile Devices in Construction: Rachel Falsetti, Construction Chief, Caltrans
• History and current state of e-construction at Caltrans
• Challenges
  o IT Office coordination
  o Public perception of tablets
    ▪ Inappropriate use
  o Procurement Method
    ▪ Slow procurement times
• Goals:
  o Improve performance and efficiencies
  o Improve project communications and partnering
• Pilot
  o 8 contracts
  o Electronic versions of project materials
  o Tested field applications
  o Tested various applications for use in projects
  o Results
    ▪ Improved staff effectiveness
      • Email at the job site, documents on tablets, record information only once, travel reduction between office and project site
    ▪ Environmental benefits
    ▪ Increased documentation of contractor’s activities
• Future Deployment
  o Plans to deploy between 600 and 1000 new tablets throughout the state.
    ▪ Will identify “super users” who will train others throughout the state

Overview of Research on Construction Inspection for Digital Project Delivery: Alexa Mitchell, WSP
• Purpose of research: to document effective practices and management of digital data used during construction inspection to develop guidance for managing, disseminating, and integrating inspector’s digital data.
• Background and Previous Efforts
  o Research and Every Day Counts (EDC 3 & EDC 4) push
• Focus on the research
  o Tools used by the inspector,
  o Source of data
  o Data management
  o Policies to enable digital project delivery
  o Tech support and training for inspectors
• Current status of the research
  o Phase 1- Review of projects is complete
  o Phase 2- Currently active
• Remote project inspection
• Documentation
• Next Steps:
  o Final report published November 2018.
PennDOT e-Construction Initiatives: Jim Foringer, Asst. District Executive, PennDOT
- IT Department made a decision to
- Overview of PennDOT Programs
  - ECMS- Electronic Construction Management System
  - PPCC- Project collaboration system- highly customized SharePoint system.
  - eCAMMS- Material Management System
  - Mobile Construction
  - Eight mobile apps
- Return on Investment Overview
  - Finding that all programs have saved the DOT money and time
- Detailed Overview of the Project Site Activity (PSA) Application
- Conclusion & Keys to Success
  - Waterfall Planning
  - Sprint Planning
  - Highly important for the development team to get into the field to see real world scenarios.

Estimating Earthwork Volumes through Unmanned Aerial Systems (UAS): Gabe Dadi, PhD, University of Kentucky
- Introduction to the study
- Payment and Measurement
  - Majority of states estimate earthwork using cut sections on plans
    - Seeing average overestimation of 4.5%
- Use of UAS
  - Drones equipped with GPS cameras
  - Photogrammetry uses geo-referenced images to develop 3D point cloud model
    - Develops digital surface model (DSM)
    - Ground control points important
  - Automatic aerial triangulation and bundle adjustment
- Objective:
  - To investigate the accuracy and efficiency of using UAS in estimating earthwork activities
- Case Study & Result Overview
- Future Work
  - Reviewing Factors Impacting Performance
  - Productivity Analysis and Technology Readiness

Q: How does this differ from lidar?
A: Cost. Lidar is much more expensive. $7k for UAS. Mobile Lidar- $750k. Data collection. Lidar uses lasers. Drone uses photogrammetry and georeferencing. Lidar has faster processing on the back end.

Unmanned Aircraft Systems Overview: David May, UAS Integration Office, FAA
- Definition of UAS
UAS is a system comprised of three components
- Unmanned aircraft
- Ground control station
- Command and control link(s)

Why UAS?
- To increase safety
- Continuous operations are possible
- UAS cost less than manned aircraft

FAA’s Authority
- FAA is the government agency that manages all airspace in the country
- Reauthorization with new laws.
  - UAS are aircraft and must comply with FAA regulations
  - Various types of UAS operations
  - Online registration process for UAS under 55 lbs. Took effect August 29, 2016.
  - Paper-based registration required for UAS over 55 lbs.
  - UAS facility grid maps exist online
    - Includes maximum altitudes

Strategies for airspace authorization requests
Waiver Requests and Provisions
www.faa.gov/uas

Q: Is nighttime construction possible for UAS?
A: Nighttime waivers are possible.

Q: Does the FAA define commercial?
A: Work that is paid for or something that helps to further a business. Still has grey areas.

Q: Why a 55 lb limit?
A: Discussion on kinetic energy. Consistency across the globe. Reviewing the products on the market and in R&D. Reduction of risk.

Panel on e-Construction:
Amy Tootle, FLDOT; Rob Wight, UDOT; Rachel Falsetti, Caltrans; Jim Foringer, PennDOT
Oregon did not like using ProjectWise because of the difficulty to use by contractors.
Construction Management System- Enterprise System
Caltrans does not recommend using enterprise systems.
Pilot projects have been successful in selling technology to organizations.
Utah- use ProjectWise internally with success. Custom software development is very labor and time intensive.
Florida- Mobile Devices- iPad much more successful than Windows tablets. Agree with Utah on software. ‘ProjectSolveSP got too intense with the workflows.

11:45 PM – 5:00 PM  Lunch and Technical Tours:
Box Lunches (to go) were provided to attendees.
The following Technical Tours were available for interested attendees that had registered:
- Lytle Tunnel Technical Tour
- The Banks Technical Tour
During this time, FHWA held their construction group meeting.

5:00 PM  ADJOURN
The meeting adjourned for the day at 5:00pm.
Thursday August 17

8:00 AM – 12:00 PM  Safety, Environmental & Workforce Development Session

**Moderator:** Rob Wight, Section Chair, Director of Construction, UDOT

**EDC and Smarter Work Zones:** Martha Kapitanov, Transportation Specialist, Work Zone Management Team, FHWA

- History of Smart Work Zones and EDC
  - Innovative strategies to improve work zone mobility and reduce work zone crashes.
- Initiatives:
  - Project Coordination
  - Technology Application
- SWZ Goals:
- Examples of SWZ:
  - Project Coordination
    - FHWA Project Coordination Guide
    - Online mapping tools- Baltimore
    - WZ Project Management System- Washington, D.C.
      - Tracking Tool
      - Traffic Analysis Tool
    - Weekly meetings with major metropolitan areas- WSDOT/Seattle
    - Lane Closure Tool- Florida DOT
    - Michigan’s I-94 Corridor
      - Building partnerships to enhance mobility during construction.
  - Technology Application
    - WZ ITS Implementation Guide
    - WZ ITS Case Studies
    - Queue Warning System (QWS)
    - Variable Speed Limits (VSL)
    - Dynamic Lane Merge- Early and late merge for low and high volume areas
    - Case Studies:
      - Rural Que Detection and Warning System
        - Illinois DOT
- FHWA SWZ Support
  - Virtual and in-person training
  - Demo Site Visit
    - Autonomous
  - WZ Management Website
  - Grant programs

**Smart Work Zone Experience and Research in Texas:** Jerry Ullman, PhD, P.E., Senior Research Engineer, Texas Transportation Institute

- Smart Work Zones= work zone ITS
  - Automated detection and interpretation of current traffic conditions
  - Dissemination of accurate, real-time information to travelers
- Will WZ ITS help my project?
- WZ Implementation Guide Steps
  1. Assess needs
2. Develop concept/ assess feasibility
3. Design the System
4. Procurement
5. Deployment

Q: On I-35 corridor project, how many projects? How were SWZs added to the project?
A: 17 with multiple projects. SWZ were change ordered into the projects and coordination followed between projects.
Q: How successful have you been getting distracted drivers to pay attention?
A: This is a large challenge. Portable rumble strips have been successful to get driver attention.
Q: Who developed the SWZ website? Real time information?
A: Texas Transportation Institute developed it for this Texas district. Contractors used the system for real time information.
Q: Logistics for funding, contracting?
A: TxDOT established a 2% safety contingency fund for all projects over a threshold. Queue warning systems were added very early in the project. Each system costs $200k plus $1k nightly cost. Mobilization cost plus per night cost.

Safety Certification for Transportation Project Professionals: Brad Sant, Senior Vice President, Safety and Education, ARTBA
- Importance of safety certifications for employees that are on the project every day.
- Protect workers and traveling public
- Safety Certification for Transportation Project Professionals
  - Certification commission has a wide group of
  - Professional testing consultants worked on development
  - Working on ANSI and ISO accreditation.
  - Raising and equalizing the baseline of safety competency
  - Testing requirements
  - Testing possibilities
  - Online learning center
- Importance of owner influence on contractor safety efforts
Q: How much of this compliance effort focuses on developing a safety culture?
A: Hoping certification gets the eye of the contractor leadership.
Q: How many who have passed are from the state DOTs?
A: A few from PA, TX and MA. Will be expanding more rapidly soon. Feel this will be driven by the DOTs.
Q: Has there been any discussion with insurance companies for better rates when contractors complete the training?
A: Yes. Two large insurance companies are watching this carefully.

What’s New from the Center for Environmental Excellence: Rob Wight, UDOT
- Partnership between AASHTO and FHWA, guided by a technical working group.
- If you have environmental compliance ideas as it pertains to construction, please talk to Rob.
- What does CEE offer for construction?
  - Practitioner’s Handbooks
    - Stormwater management
  - Stormwater Field Guide
  - Summary of construction related research
  - List of programmatic agreements throughout the country
- Environmental best practice sharing
9:30 AM – 9:45 AM  Break
At this point, a 15-minute break was taken.

Tracking Contractor Compliance for Stormwater in Ohio:  Hans Gucker, P.E., CPESC
Construction Hydraulic Engineer, ODOT
- Brief history of ODOT’s program
  - Prior to 2004
    - ODOT prepared all SWPPP and conducted all required construction
t      general permit inspections
  - 2004- now
    - Orders from Ohio EPA forced ODOT to update program
      - Removal of competitive bid component of the program
    - Put SWPPP requirements on contractors
- MS4 Audit by Ohio EPA- Findings and Responses
- Program Improvements
  - Implement software solution over paper
    - Smartphone/tablet with a web-based platform
    - Use SWPPPTrack LTIS
    - Used on 5 pilot projects through FHWA EDC Initiative
- Benefits of application/software
  - Statewide project tracking
    - Project status
    - Critical compliance dates
  - Active audits
  - Automated reporting
  - All BMPs are preloaded into app
    - Picture is required every 21 days
    - Required inspections
  - Year-end reporting is very easy
- Next steps:
  - Use on 45 new projects throughout Ohio
  - Policy change rollout plan

Q: Required minimum frequency of inspections?
A: Weekly plus after ½” rainfall event. Monthly by a PE.
Q: Cost to the contractor?
A: To pay for the software there is a cost per month for the contractors. 832 spec item.
Q: Changes to EPA standards during this time period?
A: EPA noted that there were changes to contractors, but didn’t benefit ODOT. Permits were
written for vertical construction, not linear projects.
Q: Have you seen ODOT field staff improvements in knowledge?
A: Yes and no. Knowledge of BMP existence has improved, but knowing when to use them has not.
Q: How much did you allow in the contract for storm water control plans?
A: Did not allow for extra time. Contractors have from award to notice to proceed to develop plans. Working on developing phased plans in the future.

Klingele Road Urban Trail Project in Washington, D.C.: Paul Hoffman, Supervisory Civil Engineer, DDOT
- Background on the project
  - Road closed to the public in 1991
  - No road maintenance for 25 years
  - FONSI- 2011
  - Construction 2015-2017
  - Permeable pavement used
  - Formal partnering on this project was very beneficial
- Environmental documentation and design of the project
- Construction of the project

Workforce Development- Alabama DOT Leadership Academy: Scott Overby, Bridge Construction Administrator, ALDOT
- Overview of the program
  - Timeline
  - Mission, Vision and Goals
  - Modules Overview
  - Leadership moment videos
  - Front office buy in and leadership was key
  - Class structure
  - First class graduated in April 2017
  - Tracking retention

Q: Are the videos online for public consumption?
A: Yes, through ALDOT website. http://www.dot.state.al.us/
Q: How long have the attendees been there?
A: Typically, entry-level managers. Around 5 years as ALDOT employees.
Q: Who is the academy open to?
A: Everyone at ALDOT with an endorsement from their supervisor.

Workforce Development Survey and Roundtable Discussion: Rob Wight, Director of Construction, UDOT
- Perfect storm for workforce development?
  - A possible opportunity?
- Millennials have become the largest generation in the workforce
- What can transportation agencies do to attract and retain employees?
  - Existing research- NCHRP 685, NCHRP 813
- Challenges to hiring
  - Perception of DOT work
  - Compensation
• Hours
• Tech degrees

• Millennial Research
  • Thoughts of construction as a career
  • How are they finding jobs?
  • How to attract millennials to construction
  • How to get more applicants
  • How to retain employees
  • Help them grow or watch them go

• Open Discussion
  Comment: Millennials get excited about impacting the future over higher paying jobs. Allow for them to make an impact.
  Comment: ASCE young member forum.
  Comment: Use social media for outreach.
  Comment: OR/VA/ Working with local universities.
  Comment: Oregon- Graduate engineering program. Have an 18-month rotational program.
  Comment: Flex time when not working construction
  Know your employee well and focus on their strengths.
  VDOT- Use funds, when available to increase pay.
  KY- Scholarship program from 1948. Every year you receive the scholarship, you must stay with the Kentucky Transportation Cabinet.
  Gransberg- Get exciting job descriptions and titles. Engineer 1 vs Structural Engineer Specialist
  Q: Rural area recruitment?
  A: Moved a resident engineer office to make it more desirable. Higher pay rates for rural areas. Entice them with incentives.
  Comment: Building a better community is highly important.
  Comment: Use of new technology excites younger employees.

TC3 Update: Darby Clayton, P.E., Regional Construction Engineer, WVDOT
  • Summary of the TC3 program
  • Updates
    o New subscription plans for non AASHTO members
    o Web-based training
    o Mobile application
  • Huge ROI
  • Update the workforce
  • Construction Courses
  • New course ideas

Q: Are there lighter areas that courses are needed?
A: Any needs that you have that can be nationally applicable. Schedule.
Q: How to submit course ideas?
A: Annual questionnaire and through Darby Clayton J.Darby.Clayton@wv.gov

12:00 AM – 12:15 PM  State Discussion Topics

Moderator – David Hoyne, Subcommittee Vice Chair, Vermont AOT
At this point, Mr. Hoyne opened up the meeting for State Discussion Topics (See Appendices C, D and E for Questions and Answers discussed). The Subcommittee then adjourned for lunch.

12:15 PM – 1:15 PM  Lunch

1:15 PM – 3:00 PM Section Meetings

- Contract Administration
- Roadway and Structures
- Safety, Environmental & Workforce Development
- Integrated Construction and Technologies

3:00 PM- 3:15 PM  Break
At this point, a 15-minute break was taken.

3:15 PM- 3:30 PM: I-85 Span Collapse: Marc Mastronardi, P.E., Construction and Materials Engineer, Georgia DOT

- Marc gave a brief presentation on the collapse and reopening of portions of I-85 in Atlanta, GA.
- Immediate focus: public safety, traffic management, highway reconstruction, public education
- Negotiated bid scenario.
- 13 columns, 61 beams, 4 caps, 6 spans replaced
- 54,000 hours of manpower, contractor worked 24/7 until
- $3.1 million incentive= 6 weeks earlier opening= $27 million benefit to motorists

Q: How many contactors were considered?
A: Considered 3 contractors. Ultimate contractor had the experience, availability and resources and were working just north of the closure.

3:30 PM – 5:00 PM  Closing Session – SOC Business Meeting

Section Chair Reports
Mr. Hoyne called the meeting to order at 3:30 pm. Each of the Section Chairs provided a summary report for their respective Section as described below. NOTE: Section Meeting minutes are contained in Appendices D, E, F & G.

- Safety, Environmental and Workforce Development: Rob Wight (Utah DOT)
- Integrated Construction and Technologies: Joe Squire (Oregon DOT)
- Roadways & Structures: Joe Robinson (Pennsylvania DOT)
• Contract Administration: Gary Angles (Ohio DOT)

2018 SOC Host State Presentation – Pittsburgh, PA
Video presentation on what to expect when in Pittsburgh next year

2019 SOC Host State Selection

Utah Presentation by Rob Wight
Idaho Presentation by John Bilderback
Washington Presentation by Mark Gaines

Washington wins with 29 votes. Utah received 5. Idaho received 3.

5:00 PM   ADJOURN
The meeting was adjourned by Mr. Hoyne at 5:00pm.
APPENDICES

Appendix A - AASHTO SOC Officers, 2016-2017
Appendix B - Meeting Attendees List
Appendix C - State Discussion Topic Responses
Appendix D - Contract Administration Section Report
Appendix E - Roadways and Structures Section Report
Appendix F - Integrated Construction and Technologies Section Report
Appendix G - Safety, Environmental and Workforce Development Section Report
Appendix H - Research Steering Committee Report
Appendix I - SOC Resolutions
Appendix A

AASHTO SOC Officers
2017-2018
# AASHTO Subcommittee on Construction Officers 2017-2018

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<th>Administration</th>
<th>Chair</th>
<th>Vice Chair</th>
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PennDOT Contact - 2018 Annual Meeting: Joe Robinson; 717-787-4794; josrobinson@pa.gov
Appendix B

Meeting Attendees List
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Appendix C

State Discussion Topic
Responses
CONSTRUCTION INSPECTION

(Rob Wight – Utah DOT)
- Are any states using risk to determine testing or inspection frequencies? If the contractor has had all passing tests in one area, could you concentrate testing inspection in another area? This was discussed a couple of years ago, but wanted an update?

GA- Need to further define risk-based inspection
UT- With reduction in staff, risk-based inspection will become more important.
PA- using e-construction to collect more data to use in the future development of risk-based inspection
CA- are looking at three levels of inspection: benchmark, intermittent, continuous to determine how long someone needs to be present
NV- Trying to bring flexibilities into testing frequencies

- What are other states using for applications for mobile devices for inspectors? To get a completely mobile construction platform for field personnel, we need to have specifications, manuals, etc. in a mobile format that can be accessed easily, possibly without internet connection.

CA- PDF Cabinet
VT- DocExpress, Piloting HeadLight
TN- Homegrown SharePoint system
OH- Mobile Inspector, GoForms, SharePoint for finals
GA- ProjectWise
LA- Mobile Inspector, HeadLight
ME- Mobile Inspector, DocExpress

- How are documents stored when using details?

ME- Scanning paper files
OH- Use stored shared drive. Only materials tickets are still on paper.
FL- PSSP- SharePoint based site. Long-term SharePoint based site
GA- ProjectWise, materials tickets are still paper
TX- ProjectWise
FHWA- e-filing system being developed with Division Offices

(Joe Squire – Oregon DOT)
- Relative to Outsourcing CE&I work to consultants:
  - Are DOT’s seeing a Field Overhead rate and a different Office Overhead rate for CE&I consultant’s construction engineering work? If so, what is the range?

VA, UT, FL, PA, ME, CO, NJ- Different rates. Field overhead rates vary between $90 & $130. Home office consultants are typically more expensive.
What does your DOT do or use to determine profit or fee?

VA- Negotiated- 8-12%
NJ- 16%
AL- 10%
VT- 10%
NH- 8%
PA- 15%, 20% design
CO- 8.5-10%
DE-10%
GA- 8-12%

Does your DOT cap max hourly rate for consultants?

AL- Depending on position. PE, PM, etc.
VA- Seeing rates go up and now negotiating.

Does your DOT cap annual salary increases to CPI or other factor for consultants?

VA- rate escalation clauses in contracts
PA- moves with state employee fluctuation and executive pay scales
VT- moves with state employee fluctuation

CONTRACT ADMINISTRATION

(Marc Mastronardi – Georgia DOT)
• How many States establish the DBE Goal after contract award? How do you address the second bidder who achieves the targeted goal when the low bidder does not? Do you have a lot of bid protests?

MO- Good faith effort is a requirement.
TX- Check DBE goals after the bid. Have 5 days.
AL- 5 days after the bid submitted. Only 3 issues in last 19 years.

e-CONSTRUCTION

(Marc Mastronardi – Georgia DOT)
• If your state is practicing e-Construction, how are you managing the materials side?

GA-currently using SiteManager Materials
FL- Homegrown product- doesn’t integrate well with other e-construction platforms
ME- using DocExpress
AL- Building homegrown system
LA- SiteManager Materials
MS- SiteManager
PA- homegrown
(Skip Powe – Alabama DOT)
- With e-CN being such a hot topic and many states transitioning into the paperless realm, what are
  states doing about traditional paper submittals such as working drawings, shop drawings, stamped
  calculations, etc.? Are you still doing these on paper or you allowing them to be done electronically
  whether by email or some other submittal system such as SharePoint, Doc Express, Submittal
  Exchanges, etc.

VT- DocExpress for all submittals with PDFs
NE- Must submit all shop plans/working drawings using pdf via email
WA- Email with PDFs using PDF editing tools.
FL- PDFs with a SharePoint site and digital signatures.
ME- PDFs
NH/WA- Bluebeam for PDF reader
MI/CO/CT- Bluebeam, DocExpress, SharePoint, ProjectWise
AL- Submittal Exchange
CA/TX- email
ME- Seeing 2 weeks saved per season and 10% savings in cost with e-construction

WORKZONE SAFETY
(Rob Wight – Utah DOT)
- Which states are using Mobile Barrier and how is it being used on construction projects? Is the state
  providing the barrier or do you spec it as contractor provided?

CT/OH/AK- specified in the contract

(Jason Gutting – Michigan DOT)
- Maintenance of traffic by others states when they place opposing directions of freeway traffic on one
  bound in rural areas: Do they allow this type of maintenance of traffic? What requirements do they
  have? When caveats do they have to implement this such as speeds, traffic volumes, etc.? What has
  been their experience?

NH- Highly endorse using positive barrier with visual barriers on top to reduce impact of headlights on
  workers.
AR- Use it extensively. Oversized loads and snow and ice can be a problem.
NE- Use rubber ducks- 65 mph
KS- Use tubes and bricks- 65 mph
FL- Positive barrier
PA- Requires maximum deflection in design
ME- Have used positive barriers and rubes and bricks

(Dave Ahlvers – Missouri DOT)
- We recently had legislation which allowed contractors to utilize blue and red lights on construction
  vehicles within work zones. Previously these lights were limited to law enforcement and emergency
  vehicles.
  The question we have is: do other states allow blue and red lights on contractor vehicles in work
  zones and if so do they have restrictions on the number or intensity of the lights?

Only Texas allows blue and red lights.
Ohio- working on intensity on amber lights- working on dimming lights
NH- Spec requires 50% reduction of lights at night
(Gary Angles – Ohio DOT)

- Do any of the other states have signage requirements or specifications to protect overhead utilities in the work zone? If not, how do they handle contractors who take “unapproved” liberties to mark the utilities?

  AR - contractors use orange signs  
  FL - advanced signs for overhead utilities  
  ME - requires signs

- Based on FHWA’s open letter dated May 26, 2017 to all highway safety hardware and roadside design community concerning approvals for changes to existing approved safety hardware, how do states plan to handle approvals with regards to liability and expertise?

  States would like FHWA to still be the lead for safety hardware and bridge railing.

(Ryan Griffith – Kentucky TC)

- Are any states using the intelligent cones for detecting queues and updating VMB’s on their projects? Any pros/cons of using?

  SD - have been successful in larger metropolitan areas  
  FL - using a few on a pilot basis  
  ME - has started using them
Appendix D

Contract Administration
Section Report
Monday, August 14, 2017

1. **Welcome / Administrative Issues** – Gary Angles (Ohio DOT) introduced himself and welcomed everyone to the meeting. Gary distributed a sign-in sheet to the group and requested that all check their contact information and update and revise as necessary (a final attendance list is appended to these minutes).

   Gary introduced Vice Chair, Sue Eiseman (Kansas DOT) and Section Secretary, Jerry Yakowenko (FHWA). Unfortunately, neither Vice-Chair Andy Long (Wyoming DOT) nor Section Research Coordinator Richard Duval (FHWA) could attend the meeting.

2. **Overview of 2016-2017 work plan items**

   On Monday, August 14th, Gary moderated a discussion of the 2016-2017 Section workplan items and coordinators for these items provided overview presentations as follows:

   a. Sue Eiseman thanked everyone who had provided review comments on the Section’s review of the update of the AASHTO Guide Specifications. The Section members contributed to the review of Sections 100 and 200 of the Guide specifications. The review is complete and it is anticipated that AASHTO will publish a revised Guide Specification later in 2017.

   b. Jerry Yakowenko gave an overview of the Section’s workplan to perform a survey titled “Contractor Certifications.” 40 State DOTs responded to this survey which gathered information regarding current State DOT policies and practices for requiring and using certifications for progress payments, claims and other contractor submittals. It is complete and posted on the AASHTO web site - https://construction.transportation.org/resources/surveys/.

   c. Jerry Yakowenko also gave an overview of the Section update of a survey titled: “Summary of Responses for the Contract Administration Section Questionnaire Regarding State DOT Approaches for Dealing with Unsatisfactory Performance.” 20 State DOTs responded to this survey and it is posted on the AASHTO web site at the following address: https://construction.transportation.org/resources/surveys/.

3. **Overview of Current FHWA Research Related to Construction** In Richard Duval’s absence, Jerry Yakowenko gave a very brief overview of FHWA funded research related to construction program. FHWA’s research is focused on collecting current practices and documenting the effectiveness and capabilities of new technology. This research will assist States in developing new processes and policies to implement technology effectively.

4. **Potential Research Need Statements** Christofer Harper, Assistant Professor, Louisiana State University provided an overview of several research needs statements that were prepared for the Transportation Research Board Construction Management Committee (AFH10). These statements included:
a. Alternate Schedule Methods for Transportation Projects,
b. Guidebook for Risk-Based Construction Inspection,
c. Guidebook on the Impact of Accelerated Construction Methods and Technologies for Transportation Infrastructure, and
d. Guidebook for Strategic Programmatic Delivery for State DOTs and Local Public Agencies.

The Section members provided discussion and feedback on each of these and recommended that Statements (a) and (b) be advanced as recommended new research projects to the Subcommittee’s Research Steering Committee on Tuesday morning. Jerry Yakowenko represented the Section at the Tuesday morning Research Steering Group meeting.

5. Discussion of the Proposed 2017-2018 work plan.

The Section members discussed potential new workplan items from the following list of issues:

a. What are current or best practices in project closeout procedures? This might be a good fit for a Section Survey to assess current State practices and perhaps look at case studies for states that have effective procedures,
b. Lean construction,
c. Knowledge management and knowledge transfer,
d. Performance indicators for construction programs (a) measures for contract management (e.g. number of bidders, comparison with the engineer’s estimate, contract growth, liquidated damages, etc.) b) quality of construction (e.g. ride, density, non-conformance notices, etc.), and
e. Buy America certifications.

6. Discussion Regarding Potential Presentations at the 2018 SOC Meeting Contract Administration Section

The Section members discussed potential presentations for the Contract Administration Section portion of the 2018 Subcommittee Meeting in Pittsburgh, PA. Suggestions for potential presentations are listed below. The Section members prioritized these potential presentations by voting for the top four presentations. The recorded vote count is listed in parenthesis after each subject.

The Contract Administration Section leadership will discuss these suggestions and develop a final list during the monthly conference calls in 2017-2018.

1. Georgia I-285 PPP (4 votes)
2. PennDOT Rapid Bridge Replacement PPP (15 votes)
3. Minnesota DOT best value experiences – Lake Street (0 votes)
4. Utility coordination for Alternative Contracting Methods (0 votes)
5. Panel on CM/GC contracting (Tennessee, Caltrans, Minnesota) (20 votes)
6. Panel on DBE issues (needs to be focused – e.g. prompt payment issues) (6 votes)
7. NM Performance Based Contractor Prequalification and Procurement (15 votes)
7. **Final Discussion of the Proposed 2017-2018 Work Plan.** - The Section members further discussed the potential workplan items that were developed on Monday and then developed a prioritized list of workplan items for the coming year.

After some discussion on Monday and Thursday, the Section members agreed to include the following items in the 2017-2018 Section Work Plan:

- **a.** Effective practices in project closeout procedures (Lead coordinator Doug Gransberg (Iowa State University) with assistance from Jason Gutting (Michigan DOT), Jeff Benefield (Alabama DOT), Gary Angles, and Jason Blankenship (Tennessee DOT).

- **b.** Performance indicators for construction programs including: measures for contract management (e.g. number of bidders, comparison with the engineer’s estimate, contract growth, liquidated damages, etc.) and quality of construction (e.g. ride, density, non-conformance notices, etc.) (Lead coordinator Jerry Yakowenko with assistance from Jeff Benefield (Alabama DOT), Jason Gutting (Michigan DOT) and Mike Leegard (Minnesota DOT).

- **c.** Bundling projects (Lead: Earl Glenn (Mississippi DOT), Doug Gransberg, Jason Blankenship and Jerry Yakowenko.

8. **Final Discussion Regarding Research Priorities**

Gary Angles and Jerry Yakowenko represented the Section at the Thursday evening Research Steering Group meeting. The issues related to attracting and retaining a capable workforce and risk-based construction inspection generated significant discussion. The Steering Committee discussed a path forward for revising the current Research Needs Statements. See the final Research Steering Committee minutes for details.

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Appendix E

Roadways and Structures
Section Report
Roadways and Structures

Meeting Agenda

AASHTO Subcommittee on Construction

August 14 - 18, 2017
Cincinnati, OH

2017 Section Leadership
Chairman – Marc Mastronardi, Georgia DOT
Vice Chairman (Roadways) – Joe Robinson, PennDOT
Vice Chairman (Structures) – Kevin Christensen, MDT
Secretary – Anthony Sarhan, FHWA

August 14, 2017

Monday – August 14 (1:15 – 4:00 PM)
Mr. Mastronardi called the meeting to order at 1:15PM

Introductions:
Members introduced themselves.
Representation from -
Arkansas, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Missouri, Montana, Ohio, Pennsylvania,
Montana, Pennsylvania, South Dakota, Georgia, Ohio, Tennessee, Washington, and West Virginia.
FHWA
University of Kentucky
ADS, AGC, Forterra

A list of attendees including contact information is included at the end of these notes.

Opening remarks
Mr. Mastronardi’s term as Section Chair has come to an end, and Joe Robinson (PennDOT) will be taking on the role of chair.
With Mr. Robinson taking over the chair role, and Mr. Christensen stepping down, the section will need at least one vice chair as well.
Furthermore, FHWA involvement at Secretary level will be changing per agreement between AASHTO and FHWA. FHWA will no longer provide the note taking duties for the sections, so another member will need to take on at least part of the Secretary role. This discussion is on-going and additional details may be forthcoming.

2016/2017 Work Plan: The group discussed the status of the following items from the 2016/2017 work plan.

1. Support and provide technical review and assistance for the AASHTO Guide Specification rewrite
Mr. Mastronardi provided a brief overview of the update and projected schedule. Mr. Mastronardi also noted that many of the comments from the Roadway and Structures member states had been considered and thanked everyone for their participation. Much of the work was completed by the
consultant, however the Roadway and Structures section’s input is apparent from reading the draft language.

Mr. Mastronardi also reminded members that the intent of the guide specification is to serve as a baseline, and that State Specifications should be at least as stringent as the guide. It was also noted that the guide spec is a valuable resource for other entities such as local agencies.

A work product is expected to come out for review as soon as mid-September. As an official AASHTO document this item will be balloted, and each member state will have to vote.

2. Update and revise the 2003 Guide to Major Types of Transportation Construction Specifications
   This item was deferred due to scheduling conflicts throughout the year. The group discussed whether to carry this item over into the 2017/2018 work plan year. A final decision was not made and will be reconsidered on Thursday.

3. Develop and conduct a survey on the use of rolling slowdowns or pacing
   Mr. Sarhan provided a brief presentation of the survey results. The survey and comments will be posted on the AASHTO website for 5 years, and will then be archived.

   Mr. Mastronardi initiated a discussion among the members on the best way to move forward with the results of the survey. In general, it was still too early to tell if follow up activity is warranted, but this may come up throughout the year after members have had a chance to fully review the survey data.

4. Develop and conduct survey on ground in center-line rumble stripes and edgeline rumble stripes
   Mr. Sarhan provided a brief presentation of the survey results. The survey and comments will be posted on the AASHTO website for 5 years, and will then be archived.

   After the presentation Mr. Christensen noted that Montana has an active program expanding the use of both center-line and edge-line rumble strips statewide. Mr. Christensen cautioned that MDT have found that the noise can get very aggressive when the rumble strips are in an area where the roadway section changes.

   Mr. Sadler commented that the Florida DOT only uses rumble stripes in dense graded mix. Like Montana they have received comments concerning the noise. Mr. Sadler noted that there was no good criteria in place with FDOT first started placing rumble stripes, and they are re-looking at where and when they should be used. In some instances FDOT has resorted to filling ground in stripes to address noise concerns.

   Montana moving to having this statewide. They have found instances where you have to be very careful with the grind when the roadway section changes...noise can get very aggressive. They typical edgeline rumble stripe in Florida consists of an 8-inch wide grind on a 6-inch stripe. Centerline rumble stripes consist of a 16-inch wide grind.

   Another area FDOT is closely looking regarding rumble strip application is the spacing to address the cycling community’s concerns.

   Mr. Christensen added that MDT varies the width of the rumble stripes based on roadway width.

   Mr. Mastronardi remarked that the Georgia DOT is looking at rumble stripes as a possible way to address crossover accidents.
Mr. Sadler responded that crossovers were the primary reason Florida began its rumble stripe program.

Mr. Andersen added that the Maine DOT is not using rumble stripes, but are using temporary rumble strips on the interstate as part of their efforts to bring speeds down in certain areas.

Mr. Humphries asked if the survey considered the effect of snow plows in northern states, and expressed some concern over water infiltration at the centerline joint.

Mr. Mastronardi responded that the survey did not ask any questions about issues with snow plows, or concerns about water infiltration at the joint, but acknowledged that it seems to be a general concern among all pavement and materials engineers.

Mr. Christensen added that MDT is very concerned about water infiltration at the centerline joint, especially since they see a lot of moisture in Western Montana. He noted that MDT has instituted a centerline density spec, and it appears to be working well.

Mr. Humphries commented that this group should look at how best to expand this discussion since it very quickly begins to tread on some of the safety vs. performance tradeoffs all DOT’s have to take into consideration.

Mr. Deery asked if MDT has had a chance to look at the safety data yet.

Mr. Christensen responded that it was still too early, and the program had only begun last year.

Mr. Ahlvers commented that MODOT uses rumble stripes on all edgelines, and they have seen a reduction in run-off the road accidents. He also noted that truck trailers riding the stripe can cause noise and durability problems, and that have noticed deterioration along at grind areas.

Mr. Christensen did note the MDT has already received some positive comments from drivers about liking them in the winter when you can’t necessarily see the roadway. MT – Some positive comments about liking them in the winter when you can’t necessarily see the roadway?

Mr. Robinsons added that PennDOT’s centerline rumble stripe program was instituted in part to address accident clusters. Mr. Robinson also noted that fog sealing the rumble stripes appears to help with the durability.

Mr. Christensen remarked that MDT fog seals centerlines, and Mr. Mastronardi commented that the GDOT fog seals edgeline rumble stripes. PA – a lot like FL dealing with accident

5. Develop and conduct survey on pavement smoothness measurements.
Mr. Sadler provided a brief presentation of the survey results. The survey and comments will be posted on the AASHTO website for 5 years, and will then be archived.

In response to a comment regarding the use of asphalt pavements in Florida, Mr. Christensen asked if FDOT has used LCCA. Mr. Sadler responded affirmatively, but noted that FDOT typically uses very thin asphalt sections, and provided typical cross sections for both pavement types (HMA, PCCP) for discussion purposes. Mr. Ahlvers commented that MODOT is using ME design, and questioned if a pavement section as thin as FDOT uses would come out of the MEPDG.
6. **Investigate the use of alternative load transfer devices for PCCP**

Mr. Robinson provided a report out. It appears there has been some use of alternatively shaped load transfer devices (i.e. other than round dowel bars) in some airport work. However, it does not appear to have any known history of use in highway work. There was some concern regarding the possibility that a multi-directional load transfer device could cause the panels to seize.

**AASHTO SOM Resolution**

Mr. Sarhan presented the group with language from an AASHTO Subcommittee on Maintenance resolution that they become the approving body for all pavement preservation construction guidance specifications.

Mr. Mastronardi opened the discussion up for comment from the group.

Mr. Sadler commented that he is a little hesitant about Subcommittee on Maintenance writing a construction specification.

Mr. Ahlvers and Mr. Reid generally agreed. Mr. Reid questioned if moving construction specifications out of this group would be slippery slope.

Mr. Andersen asked if pavement experts along with industry representation would be addressing any changes that came out of the Subcommittee on Maintenance.

Mr. Mastronardi offered that there might need to be a joint technical approach.

Mr. Humphries remarked that he is also a voting member at the Subcommittee on Maintenance, and he is less hesitant about them taking ownership of a construction spec. However, he did question whether there had been a misunderstanding and if the SOM is aware that there is a guide specification.

The group felt like more information was needed and would look for a volunteer to reach out to the SOM for more information. Mr. Sarhan agreed to obtain a copy of the resolution and to distribute it to the members for consideration.

**Research**

The research meeting is scheduled for Tuesday morning at 6:30 AM. Mr. Mastronardi opened the discussion with a recap of last year’s research topics. In particular, he highlighted the successful topic put forward by this group last year regarding one-lane two-way traffic control. A synthesis was developed, and is now in final draft. Mr. Mastronardi then opened the floor for any proposals to be taken to the research meeting for consideration. The following topics were discussed:

1) **Driver Assistance Device:**

   Mr. Mastronardi asked if anyone has used a Driveway Assistance Device (DAD), which is similar to an AFAD and used to assist with driveway traffic in work zones. Mr. Henning commented that at least one vendor had approached the Arkansas DOT about using one, but ARDOT declined because they felt the vendor couldn’t prove it was reliable.

2) **Alternative Technologies for work zones:**

   Mr. Sturgill discussed an effort that is underway regarding the use of alternative technologies for mitigating the risks of accidents in work zones. The effort is primarily based on intelligent vehicles and V2I. Mr. Mastronardi remarked that Georgia Tech had reached out to GDOT on the same subject.

3) **Accelerated construction:**
Mr. Andersen asked if anyone has looked at the disrupting impact that ultrafast construction practices have on our normal way of doing business. Mr. Andersen noted that this is much broader than just ABC. For example, a project that would normally take 2 months to complete can be done in 15-18 days. However, standard specifications and practices haven’t necessarily caught up to this. Consider a concrete spec that requires a 7-day cure – under these new practices and approaches an owner may have to adjust that requirement.

4) General discussion about concrete practices:
Mr. Henning remarked that the FHWA Mobile Concrete Lab (MCL) had recently been to Arkansas and commented that many states require too much cement in their concrete. The pace of construction may be driving this as contractors increase cement content so they can move on with work. Mr. Robinson added that PennDOT has been looking at reducing cementitious content in bridge decks based on recommendations from a bridge deck cracking task force. Mr. Christensen stated that MDT has reduced the strength requirement for bridge concrete and instituted a maximum cementitious content.

Mr. Mastronardi commented that the use of fly ash and the availability of fly ash in the future is something this group should track as a potential topic in the future.

Mr. Andersen added that the Maine DOT has begun pushing more use of stainless steel rebar and FRP rebar in aggressive environments, as well as using UHPC for closure pours.

5) Recycled Concrete Pavement:
Mr. Mastronardi asked the group about their experiences using RCP. Mr. Ahlvers commented that MODOT is using it, but the use was mandated because there is no problem with aggregate availability in Missouri. In response Mr. Mastronardi surveyed the group (by show of hands) to see who have done RCP mixes. Only one raised hand – Missouri DOT. Mr. Leckie remarked that the Indiana DOT has a spec allowing it, but no one uses. Mr. Mastronardi acknowledged that they have the same issue in Georgia (have a spec that allows it, but not used) and remarked that haul costs seem to be a limiting factor. However there does seem to be some resistance to even recycling in place. Mr. Henning stated that it is only used for base material in Arkansas, but only a handful of contractors have used. Mr. Robinson indicated that there was heavy movement into using recycled material in Pennsylvania, which included the use of RCP in base material. The use of RCP was temporarily put on hold due to widespread issues with tufa precipitate clogging underdrains.

6) Rubbilization
Mr. Mastronardi asked the group about their use of rubbilization, and relayed a comment from the Alabama DOT that they have begun extensive use rubbilization. Mr. Allen remarked that Louisiana has done quite a bit of rubbilization, and Mr. Reid stated that TDOT is looking at rubbilization as an option for upcoming work on I-440 around Nashville. Mr. Christensen indicated that MDT hasn’t done any rubbilization, but have extensive experience and success with crack-and-seat work.

The group agreed to put forward the following two items as potential topics at the research meeting:
1) State of the practice for rubbilization (includes similar activities such as crack-and-seat)
2) Specification relaxation or modifications when using fast track construction methods

Open Discussion:
1) Mr. Henning - Qualification for consultant inspectors? What requirements are other states using?
   a. OH requires NICET and certain specialization requires additional certifications.
   b. GA requires 30% DOT staffing, FL is in single digits of DOT staffing. MT headed that way.
Follow up question: Who still uses NICET?
   MO – used to but dropped them about 5 years ago. Did not pertain to the work. Use AASHTO and MODOT requirements.
   PA – we required it for a long time. Found that it drifted to vertical world instead of highway work. Dropped it for PennDOT personnel but still use it as a requirement for consultants.

Follow up comment from FDOT– We should look at focusing regionally.
Follow up comment from GDOT– are we adequately capturing this for our design-build and P3’s? E.g. One of our Atlanta area P3’s will be overseen by a consultant. No GDOT person, but GDOT is retaining responsible charge.

2) Guidebook for staffing requirements on ACM
3) Recruiting staff
4) Mr. Reid. With respect to WZ safety TDOT has recently had a lot of accidents and near misses and are now looking at a lot of items for possible solutions. For example, TDOT has created a safety division whose sole mission is occupational safety. What is your experience using temporary rumble strips in work zones?
   Question: Who has used portable rumble strips.
   Show of hands approximately 10
   Follow up: Do you use them on the Interstate?
   FL – yes in certain instances
   AR – As queue advance warning, but have now moved to other means. Problem is that truck traffic causes them to move...hard time keeping them in place.
   GA – industry was originally in opposition over concerns of workforce ability to effectively move and keep up with these portable rumble strips and potential for workman’s comp claims.
   MO – MODOT maintenance uses them and don’t like them
   GA - conducted a survey (60-70% response rate) – overwhelming positive response from public they liked them.

5) What are people doing for end of queue?
   a. AR – using automated. Contractor provided.
      Lessons learned – when several projects are close together...how to coordinate.
      I-30 in SW Arkansas large truck volume so have had to push back messages because the queues are longer.

6) Mr. Mastronardi – How do states establish night time work hours?
   Maine DOT – a timing committee establishes the hours when projects meet certain criteria
   Follow up question– what limitations are being used?
   Arkansas – We use Level of Service (LOS)
   Tennessee – We require all interstate paving at night regardless, and use some analysis for others.
   Florida – We can’t get it until midnight in urban areas, so it’s all night work.
   Georgia – Same as Florida. In some instances we have had to move to weekends because of volumes.

7) General discussion about how legalized medical marijuana

Adjourn: Mr. Mastronardi handed over chairmanship duties to Mr. Robinson and the meeting adjourned at 4:00 PM.
Thursday - August 17 (1:15 – 3:00 PM)
Mr. Robinson called the meeting to order and opened the discussion.

Introductions:
Members introduced themselves.
Representation from -
FHWA
University of Kentucky
ACPA

A list of attendees including contact information is included at the end of these notes.

Recap of Monday’s Section Meeting:

2016/2017 Work Plan:

1. Support and provide technical review and assistance for the AASHTO Guide Specification rewrite
   Status: Final draft guide spec came out this week.
   Action: Distribution for comment to members will be per discussion at AASHTO SOC. Once feedback is provided, this work product will need to be balloted by the members. Expect draft availability by the end of the month.

   Marc Mastronardi will work with Joe Robinson to distribute the final draft. Distribution could also come from David Hoyne.

2. Update and revise the 2003 Guide to Major Types of Transportation Construction Specifications
   This item has been deferred. Discuss carryover into 2017/2018 Work plan.

   Action: Keep this item for the 2017/2018 work plan. Joe Robinson to reach out to Greg Doyle on distribution options to the group.

3. Develop and conduct a survey on the use of rolling slowdowns or pacing
   Status: This item is complete
   Action: Survey and results to be posted on webpage

4. Develop and conduct survey on ground in center-line rumble stripes and edgeline rumble stripes
   Status: This item is complete
   Action: Survey and results to be posted on webpage.

5. Develop and conduct survey on pavement smoothness measurements.
   Status: This item is complete
   Action: Survey and results to be posted on webpage

6. Investigate the use of alternative load transfer devices for PCCP
   Status: This item is complete
   Action: This item is complete. No further action.
**Research Update:**
Membership reviewed the minutes from the Tuesday morning research section, and briefly discussed each topic. After discussion the group agreed to support the following two items:

1) **Risk Based Inspection Guidebook** – this item was brought up by the Contract Administration Section during the research meeting and had broad support from Roadway and Structures.

2) **Synthesis identifying opportunities for reciprocity related to inspection standards** – this topic has been discussed side by side with the Risk Based Inspection topic for the past several years. The group recognized that identifying the “low hanging fruit” that is out there between the states is a good place to start. For example, the South Dakota DOT uses the same instructors and training materials is the Minnesota DOT for erosion control, but there is no reciprocity between those two state’s regarding an inspector’s qualification/certification in that area.

**Technical Section Membership:**
Discussed this among the members. Mr. Sarhan indicated that any State DOT representative that signed in will be considered a member, and added to the group e-mail list.

**Vice Chairmen and Secretary:**
Mr. Robinson introduced the new vice chairmen of the section:

John Hancock - GDOT (Vice)
Mark Walls – KYDOT (Vice)

The section will still need to identify a secretary.

**Presentation Topics:**
Mr. Robinson opened up the discussion to identify potential presentation topics for next year’s meeting. The group identified 8 potential topics with items a), b), and h) below considered likely presentations.

a. PennDOT – fire on Liberty Bridge.

b. GDOT – I-85 presentation (J. Hancock)

c. New AASHTO guideline on pre-installed precast products (R-073)
   a. Includes visual acceptance

d. Concrete overlays – forensics?

e. Pavement preservation techniques.

f. Practical experience on use of drones for quantity measurements - K. Christensen (MDT)

g. New Silica Dust rule effects on paving?

h. FDOT wax on tendons – a definite maybe

**2017-2018 Work Plan**
Mr. Robinson opened the discussion to identify the 2017-2018 work plan items. The group agreed on the following items for the 2017-2018 Work Plan

1) **Support final distribution and balloting for the Guide Specification update** – David Hoyne and the section Secretary will be the lead.

2) **Update and revise the 2003 Guide to Major Types of Transportation Construction Specifications** – Greg Doyle will be the lead

3) **Distribute the NTSB Report on Atlanta Bridge collapse** – John Hancock and Marc Mastronardi will be the lead

4) **Survey on establishment of restrictive work hours** – MODOT will be the lead
5) Develop a presentation on 1-way Traffic Control best practices for section meeting – GDOT will be the lead.

Open Forum

Connie Yew (FHWA) – Update on EDC 4 implementation that has to do with pavement preservation (where, when, and how). Preservation has been added to the definition of construction under MAP-21. FHWA is looking for opportunities to partner and looking for lead states that would be interested in taking part in these activities (right time, right place, quality construction materials). There is also a second effort on e-construction and one of the other groups will be working on this.

New Silica Dust rule – going into effect later this year. PennDOT review of large generator list – milling machines seem to be the one that a solution is not readily available. Many manufacturers already identifying water systems to be installed on all new and retrofits for old. FDOT expressed concern about effect on paving operations with wet roadway.

Adjourn
Mr. Robinson adjourned the meeting at 3:00 PM
2017 AASHTO Subcommittee on Construction
Roadway and Structures Section Meeting Attendance

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**Industry Attendees**

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Appendix F

Integrated Construction and Technologies
Section Report
Action items are in bold. The Integrated Construction & Technologies Technical Section met on 8/14/17 and 8/17/17 and the following items were covered.

- Update ICT members list – participants were asked to ensure that their information was correct or added to the list that was circulated.

- Work plan 2017 – 2018
  - Suggestions and champions welcomed
  - Update State profiles – EDC lead State profiles were done a few years ago by Bryan Cawley (FHWA) and included a listing of what hardware/software agencies are using. A more in depth survey of States is warranted. Include business requirements – what the DOT wants the system to do, who has access to the systems and what level of access. Also, include identification of documents that require digital signatures. In addition, try to gather:
    - DOT web-links to ICT – MI has a wiki; KY is starting to compile; AL NH is developing. Industry can send links to. A goal could be to integrate the links collected onto AASHTO’s website.
    - Specs
      - PE stamping spec and state law - FL, OR, NC allow
      - Digital signature – OR; KY is working on change orders, IL also trying to do, but legal folks have an issue.
      - LiDAR and other survey
      - 3D Plans – issued: OR (in combination with traditional plans) as a pilot, KY as a pilot
      - AMG – FL contractors are converting paper plans, OR seeing it on paving projects
      - Inspector gadgets – IL is doing a demo
      - QC & QA – Agencies are trying to keep up with CEI firms; FL requires that the information gets into their documents management system, but they can use what they want. PA provides the apps to their firms.
      - Small firms - have some issues with capital outlay. OR does both paper and electronic bidding for that reason. NH has gone to all electronic bidding and have not received pushback.
      - Monitoring Prompt Payment – for subcontractors at any tier. – OR will be posting every payment by bid item so sub tiers can see the item has been paid. CA is already doing this. PA, everyone can see what got paid.
    - The number and level of support staff that agencies have to troubleshoot issues

The Chair and Vice-Chair will meet with Jim Foringer to strategize on how to collect the data, likely by dividing the country into regions.

- Monthly call-in – to look at surveys, research, make connections; Usually at 9:00am PST, third Tuesday of the month in order to report out when the leadership meets the third Wednesday of the month. Work on workplan items. Industry can participate. Calls generally start around January.
• JTCEES briefing and update – Joe Squire is on it as vice co-chair. Design, construction, hardware, and software industries are participating. **Joe will send out updates as information is learned.**

• There are additional FHWA peer exchanges planned under EDC4. The ICT tech section can support them by helping to make people aware of them and the outcomes from them.

• 2016 Activity report – The Chair captures activities and provides it to SOC leadership (David and Malcolm).

• **TRB AFH10 Committee Research Suggestions for Integrated Construction & Technologies Section – Amy Tootle (FDOT)**
  - There was a conference call about a month ago to brainstorm ideas that may be of interest to the SOC. SHA involvement has helped in making topic meet their needs. Write-ups were provided for the following and further details can be found at [https://rns.trb.org/search/search.aspx?f1=&t1=&ddlType=RNS&orgType=A&orgid=2768&txtOrgs=AFH10%2C+Construction+Management&sc=xx%3A%3AAll+Categories](https://rns.trb.org/search/search.aspx?f1=&t1=&ddlType=RNS&orgType=A&orgid=2768&txtOrgs=AFH10%2C+Construction+Management&sc=xx%3A%3AAll+Categories):
    - **Standard Practices for the Use of Mobile IT Devices in Construction** – FHWA has an ongoing effort that will be presented Wednesday.
    - **A Guide to Automate Project Progress Control by Leveraging Lidar and 3D/4D Information Models**
      - Break into two different topics -
        - Leveraging technology (e.g. UAS) for quantity measurement for monthly payment – how do you do it; is it accurate enough; is it cost effective – more immediate need than as-sumits
        - Leveraging technology for As-Built Plans – Lidar/3D Models
    - **Decision Support System to Prioritize Investments for Effective CIM Implementation** – not a priority
    - **Alignment and Cost Benefit Analysis of the Standardization of Data Interoperability** – not a priority
    - **E-Ticketing** – (Possible domestic scan?) Include looking at it from a safety perspective. What is available? Are plants ready for this? What systems are contractors using? What spec would you put out to encourage it? – a priority
    - **What changes are being made in design to leverage 3D? Example: 3D element as pay item.**
    - **AASHTO Construction Guide Spec** – is all geared towards paper. Maine did change their Section 100 portion. FL required a GNSS workplan because they didn’t want to pigeonhole anyone.

Amy Tootle (FDOT) represented the ICT tech section at the SOC Research Steering Committee meeting on 8/15/17 where she brought forth the ideas above. After the Research Steering Committee considered all the ideas raised by the four technical sections, the following topics bubbled to the forefront: e-ticketing; guidebook for risk-based construction inspection; attracting and retaining the construction workforce.

The ICT tech section agreed on the following prioritization of those topics and provided some additional thoughts on each:

1. **e-ticketing** – Make sure it’s broader than just what Iowa is doing. Plant controls are going down this same path of automation. FL, PA, AL is exploring e-ticketing. Project should examine what information do we really need vs what is legacy data. Jim Foringer (PennDOT) offered to help assist Joe and Amy to prepare the research needs statement if it moves forward.
2. Guidebook for risk based construction inspection – Auburn is doing some research for ALDOT. They may develop a database to assist with assigning personnel. The project needs to address the different delivery models but start with design-bid-build.

3. Attracting and retaining workforce – There seems to already be research on this. In addition, things change so quickly that the findings could be outdated before the report gets published.

The Chair asked if there were any other topics the group should discuss. The following were raised as work plan items:

- Collection of certified payrolls. AASHTO has a Civil Rights modules, but what are others doing? OR will do spot checks, but the bigger issue is that FHWA saying that wet signatures are required, when they actually are not. As long as a signed version is available, it’s good. A potential survey, should include assessing different levels of involvement at the SHA and multiple labor rates. Tim Kell (IL DOT) agreed to draft an initial set of questions.

- What are States doing with material certifications?

Presentations for Next Year

Potential presentations for next year were discussed and this list will be further refined during the monthly teleconferences:

- PennDOT – What are they doing to develop their own homegrown apps?
- UAS – Advances in earthwork quantity measurements and progress payments, data accuracy
- How are the AASHTOWare components working together?
- Follow up to the digital inspection presentation – Alexa Mitchell should have all the data and case studies completed by next year’s meeting.
- Consultant perspectives on CEI - Panel discussion. What risk features are consultants assessing?
- Results of surveys the ICT plans to conduct (Surveys should be completed by May 2018 to allow this.)
- Scheduling software - How are agencies integrating scheduling software as a part of e-construction? PA can discuss what they are doing with the portals they are developing. Advantages and disadvantages of various approaches.

AASHTO Subcommittee on Construction – Computers and Technology Section

(Joe Squire, Oregon DOT; Amy Tootle, Florida DOT)

2017 – 2018 Work Plan

- Update State e-Construction profiles, post to AASHTO SOC Website
  - An outcome of FHWA EDC3 in 2014
  - 3-years have passed. Many DOTs have advanced beyond existing profile
  - Include all DOTs status
  - Create a new more encompassing profile to allow
- Include hyperlinks to State DOTs guidance, manuals, and specs for the profile elements in the profile
- Include contact name(s) and email(s)

- JTCEES briefing and update
  - JTCEES is Joint Technical Committee on Electronic Engineering Standards
  - Recommend an electronic deliverable format considering for development stages automated machine guidance.
  - Conduct of synthesis of best practices and create a repository
  - Outline the data needs for the industry, recommend non-proprietary file format
  - Investigate the data needs and file formats necessary for the exchange of information for asset management

- Survey on who is doing AMG, intelligent compaction, temperature mapping – spec links, extent, what to do with the data

- Survey on certified payrolls

- What are States doing with material certifications? Possible survey, if someone volunteers.

- Promote EDC4 e-construction and partnering peer exchange notes

- Potential 2018 presentations:
  - PennDOT – What are they doing to develop their own homegrown apps?
  - UAS – Advances in earthwork quantity measurements and progress payments, data accuracy
  - How are the AASHTOWare components working together?
  - Follow up to the digital inspection presentation – Alexa Mitchell should have all the data and case studies completed
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Appendix G

Safety, Environmental and Workforce Development
Section Report
Safety, Environment, and Workforce Development (SEWD) Section
Meeting Minutes
AASHTO Subcommittee on Construction
08/17/2017

2017 - 2018 Section Leadership
Chairman – Rob Wight, Utah DOT
Vice-Chairman – VACANT
Secretary – Jeff Lewis, FHWA

Mr. Wight welcomed the Subcommittee members and guests to the 2017 Safety, Environment and Workforce Development Section (SEWD) meeting. The attendees included 27 representatives, including 16 State DOT, 8 private industry/consultant/University, and 3 FHWA. An attendance list is attached for reference. We then went around the room asking for input from the attendees for items that have kept them up at night.

OH – Daniel Mendel - doing more with less.

UT - Rob Wight - keeping SME’s competency up.

VA - Greg Henion - safety – prequalify have to reach certain score. Contractors OSHA score was low and now wants to resubmit. What to do for validating contractors info? Env submittals are in question too. Not good at reporting issues. Going out to community college for training assistance [on demand].

WV - Darby Clayton – New Governor is selling some bonds up to $2.6B so getting projects ready. Hiring 200 people in 6 months. DOT does use consultants some.

WA State DOT – Amir Rasaie - Economic pressure from other entities. $54B in other entities projects. Losing experience to others along with institutional loss. Safety and working with industry and other states on mobile work zones for solutions.

FHWA VT - Matt DiGiovanni – Changing a lot. Cutback on training funds. Younger people subsidizing is getting cut back. Similar to issues in UT DOT with millennials and trying to attract them to workforce.

University of Kentucky - Tim Taylor – Doing research on workforce to attract people. More in industrial. Owners do not see it as their problem. Negative effect on safety.

UT - Ashley – AASHTO intern – Studying increasing the work force in rural areas.

NV – Stephen Lani - Strategic and succession planning. 12-20% vacancy rate. 25% of force with less than 1 year experience. Pay scale is low compared to others. Trying to drive costs down. July 1st and legalizing marijuana is cutting into workforce.

NJ – Snehal Patel – Claims, change orders, etc. Outsourcing CEI 50-60%. Due for new spec book this year. Spiking resources as 40% of staff are green. No systematic way to train. Shadowing by field level staff to look at CO’s/claims and look for disconnect. Share experience to younger staff. Safety – WZ night time lighting – created a separate group to check and finding lot of problems and lack of enforcement. Do not want to jeopardize quality. UT (Rob) has tried variable speed limits (reduce) in WZ.
KYTC - Ryan Griffith – Short on work staff and legislatures want more reduction. 25% can retire right now. Worst pension in US. Question on current staff’s institutional knowledge. DOT losing to city, county, etc. Bumped up entry level pay but hard to attract.

VT - David Hoyne – Risk – what are real risks…1) skilled craft man; they decide when they want to show up for work; 2) industry not commanding respect of public for work we do.

ALDOT – Scott Overby - Contractors complaining about inspectors not knowing specs. Consultants do not necessarily know the specs. AL bridge contractors starting to find bridge training. Heavy Hispanic usage of workers being sent back across border for 3 months which is effecting contractor operations. AL has one of the best pensions. Changed it a few years ago though (tier 1 & 2) and losing attraction.

Granite Construction – Ken Kubacki - Workforce – In March, union halls were already empty for needed crafts. Technology has helped IE: changing screens to video for grading. Professional similar issues. Construction wanted them to go to College …. which is not for everyone. Safety effected by the above.

AASHTO Fellowship – Troy Suing - WA State is more rural. Keeping people in rural area is a challenge as they want to go to Seattle after a few years. Mentoring is needed. Safety – distracted driving and highway patrol is interested to participate.

NICET – Chip Hollis - Has partnered with ?? for certification of technicians. Some states have adopted NICET certification program as it is a career track cert program. NICET does not do any training itself.

NE DOT – Jim Knott - Env compliance – EPA has storm water issues. EPA has been satisfied to some level. Notification of storm water issues continues to be a concern. Losing Erosion & Soil control contractors. Workforce discussion with industry. First class operators graduated this spring. WZ – protection for nighttime.

ID –  John Bilderback – In the same boat on retiree’s. Collaborating on cross certification with DOTs. NETTCP was mentioned as one cert program to consider.

LA DOT – Dallas Balmir - New to CPM position and have had limited prior training in this latest position. Not doing anything with community colleges.

DC – Paul Hoffman – Four (4) layers of civil workers, then another 4 layers for managers. Cost of living and commute is highest in the nation. Safety – looking at public component not worker.

**DAY 2**

Tentative WORK PLAN

Any volunteer / nominations for Section Vice – Chair? Need a back-up for Rob.

Research – need some DOT sponsors! They fund the travel which is a couple of trips…1- to DC and 1- Orange County plus 2-3 phone calls in between.

1) **Workforce** - Needs to revise statement for… “Recruiting, Retaining, and Promoting Qualified Personnel in Transportation Construction.”

a. Lead - Rob-UT, Skip – AL, John - ID
2) **Work zones** – approach SCOM? Jason Humphrey in other Section can pursue. “*Alternative Technologies for Mitigating the Risk of Accidents in the Work Zone*”

a. Lead - Rob – UT - maybe a research, synthesis, scan? 20-07 might be a better fit?

3) **Staffing** – “*Guidebook on Staffing Skill Sets and Knowledge for Alternative Contracting Methods*”

a. Lead: TBD

b. Background - NEW - Consider survey, speakers, etc.? Regional or national certification? NICET has a testing system already out there. Do you want more info? Evan – use TC3 as a training element. Use TC3 to prep student. Continue to explore regional and national inspectors. Goal of reciprocity across stateliness. IE: 8 west states have WAQTAC for materials. NETTCP is already established in northeast US. APWA has an inspector Program, essentially a test. Paul (DC) – would cert give worker additional dollars/pay? Look at BMPs for Millennial job descriptions? Go Bill campaign (AL) as an example and consider “I Build America” video’s.

   **Action:** Lewis to invite Greg Doyle (FHWA) and Robert Christman – NETTCP to present in Nov – Dec. Section mtg.

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**Environmental** – environmental tracking system presented by OH was good. Can we make it easier? Many states fall under MS-4. Regulators not recognizing states policy and looking for DOT documentation. Hans (OH) - Glorified excel spreadsheets being used initially by OH and changed to app of SWPPPTRACK. IE: photo every 21 days to help validate field conditions /features in place. Helps regulators see effort of ongoing SWPPP implementation. Contractors like this as it provides immediate response and possible resolution. UT had concerns by regulators of tracking of documentation and level of training.

   Elliott (FHWA) - Coordinate with AASHTOWARE and others for compatibility.

   Jim (NE DOT) – How do you sole source? Hans (OH) – continue to annually validate to FHWA.

   **Action:** Rob – survey states to see what they are doing?

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**Work Zone Safety** – Survey states for their usage of advanced warning systems. IE: AWARE, OLD CASTLE, etc. follow-up. Rob (UT) - getting into projects…how to spec and roll it out? Look at UT survey on rumble strips and maybe add to above WZ survey. Keep up to speed on what is occurring on construction staffing for state…. NCHRP 20-107. Status of EDC initiatives? Maybe something on peds (sidewalks/trails) being addressed properly?

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**Possible PRESENTATIONS for SOC Conference in 2017** – TBD

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**Dates and Locations of Future Committee Meetings:**
Monthly Status Teleconference Meetings are being initiated **starting November 8th, 2017.**

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**SEWD Section Monthly CONFERENCE CALL schedule:**
Once a month (week before officers mtg) (IE, 2nd Wednesday of each month – start in NOV, as the following week (3rd Wednesday of each month) the larger AASHTO-SOC has their CALL. Invite appointment and reminder to be sent out by Lewis.

   **OPTION:** If you have a presentation, make it a webinar (IE, draft presentation with the group) but let Lewis know.

   Call-in info (and URL) for next AASHTO-SOC SEWD Section mtg to be held on 2nd Wednesday of every month.

   **Call in number:** 888-363-4749
Access Code for participants: 2737683
URL ......https://connectdot.connectsolutions.com/aashtoehr/
Start time is 8:00AM – (PST)......... aka - 11:00AM (EST), roughly 1 to 1 ½ hours depending on discussion.

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Appendix H

Research Steering Committee Report
AASHTO Subcommittee on Construction 
Research Steering Committee 
2017 Meeting Minutes 
Cincinnati, Ohio

Action items are shown in bold.

The 2017 meeting of the AASHTO Subcommittee on Construction (SOC) Research Steering Committee (RSC) was convened at 6:35am on August 15, 2016 in Cincinnati, Ohio. Those in attendance are listed at the end of the minutes as Attachment 1. The Chair, Jason Humphrey (South Dakota DOT), began the meeting by raising the issue of moving away from the 6:30am start time. The timing of this group’s meeting is such that it should occur after the tech sections meet on Monday and before they reconvene on Thursday. The Chair also mentioned that there may be a need to replace the group’s secretary next year. This is due to FHWA’s agency wide decision to no longer serve as secretaries for AASHTO business. SOC members were encouraged to consider volunteering for this role.

Technical Section Research Suggestions
The technical section vice chairs/representatives reported on the research topics identified during the SOC technical sections meetings that were held the afternoon of 8/14/16.

Safety, Environmental and Workforce Development – Rob Wight (Utah Department of Transportation)
- Attracting and retaining workforce – This was a top priority issue for most of the participants. There was a synthesis done a few years ago (NCHRP 685, Strategies to Attract and Retain a Capable Transportation Workforce) and in 2003 Tom Warne also did a study, but these were more general than construction. The lack of skilled crafts people for contractors could possibly be an even bigger risk. The issue of construction management degrees (not ABET accredited) was raised. Folks with these degrees have limited career track at DOTs – they top out as an inspector. FHWA’s Center for Transportation Workforce Development has a pilot program (6 States) and South Dakota is one of them. FHWA is working with the Department of Labor and the pilots have a wide scope. During the tech section discussion, it was a higher priority to address State DOT workforce issues than contractors. Roadways and Structures discussed the need for a core set of standards for CEIs.
- Alternative technologies for mitigating the risks in work zones – This would include looking at work zone intrusion systems and proof of concept for new technologies. The Department of Homeland Security is conducting a project to protect emergency responders (Vavrik is PI). Much of what they are doing is applicable to the highway market. They are focusing on using sound and how to focus it. The technology being developed makes it sound the car windshield is a speaker, and they will be testing it in Illinois in the next two months. This sounds similar to Old Castle’s AWARE (Advanced Warning and Risk Evasion) system. Is Vehicle-to-Vehicle or Vehicle-to-Infrastructure exploring relevant technology? Transit/rail also have similar issues. This idea could be submitted as a synthesis to catalogue various technologies. Synthesis projects do not result in recommendations, but are more a compilation of what is happening and can lead to a more in depth research effort.
- Staffing of alternative delivery projects. - Send to the Subcommittee on Design. Roy Sturgill has participated with them and said he would coordinate with the SOC.

Contract Administration Section – Jerry Yakowenko (FHWA)
The group discussed two possible research topics after hearing the topics presented to them by a representative from TRB’s AFH10 – Construction Management Committee.
• Alternative scheduling methods. - Need guidance on how scheduling could be used. FHWA (Richard Duval) has started a new project to document effective uses of current scheduling methodologies for different project delivery methods.

• Guidebook for risk based construction inspection – Develop guidance on how to analyze risks, what project phases are appropriate, how to manage risk without decreasing quality, etc. This topic ties into the workforce issue. The project scope could be extended to P3s. NCHRP 10-83 was originally scoped along these lines, but due to the makeup of the panel, it evolved into an organizational type of analysis with a focus on quality assurance. There is an NCHRP project on staffing strategies and risks, but it would be less detailed. Rob Wright (UDOT) and Amy Tootle (FDOT) and the Chair agreed that this is higher priority.

**Integrated Construction & Technologies Section – Amy Tootle (Florida DOT)**

The following topics are in prioritized order:

• E-ticketing – What technologies are out there? For example, some has explored RFIDs in asphalt. This also addresses a safety issue.

• Leveraging technologies for quantity measurements. Quantity measurements was of higher interest. What are SHAs doing, what technologies are being used.

• Leveraging technology for as-builts – In FDOT, as-builts are being used by maintenance. Currently they are marking up 2D plans, but with their new CIM office, it may evolve. People in the field don’t have the background to update the model. It may be better to LIDAR the project. How is the asset management office using LIDAR or GIS? UDOT is trying to use GIS. How do we go from being data rich to be information rich so that people are using it? The University of Kentucky is doing an SPR project to identify what information is needed. FHWA is wrapping a project to show how to take the 3D models from construction to asset management. The project found that none of the States are to that point yet, but it will document what some of the European countries are doing.

**Roadways and Structures Section – Jason Humphrey (SDDOT)**

• Rubblization and crack and seat state of the practice – Include how the infiltration of fines in underdrains is being addressed. This would be a synthesis. Most of the tech section’s time was spent discussing this.

• Accelerated project spec considerations – Precast construction and the use of performance based specs. What do you do with specifications to build in performance on a fast track project? For example, on a 48-hour closure when there’s a 7-day cure.

• They also discussed consultant inspection and differing certification requirements among neighboring States.

• Guidebook for staffing and recruiting staff.

• Materials supply issues – They also discussed cementitious materials and fly ash supply. Some are coming from other industries (waste materials). What other materials could be used as alternatives as supplies dwindle. SOM has identified this for fly ash. SOC would support that.

• Work zone safety options – Rolling road blocks, portable rumble strips, smart work zones.

Each of the tech section representatives was asked to take the ideas discussed above to their Thursday meetings to get a sense of priority from their tech section. The Research Steering Committee will reconvene at 5:15pm on Thursday 8/17/17 to finalize which ideas to move forward and identify volunteers to write-up the research needs statements. The meeting adjourned at 7:35am.

The group reconvened on 8/17/17.

There was some commonality in top priorities and the possible research topics were further discussed as described below. There was general agreement that the topic to develop risk based inspection guidelines was the SOC’s top priority:
• Risk based inspection guidelines – How you evaluate what items to inspect; methods to prioritize CEI resources; meeting due diligence requirements, inspection frequency. There are different approaches to be considered, either look at the areas of greatest risk or look at non-conformance issues. This effort would furnish a framework for decision making. Tie the topic to the workforce issue as a possible solution. Top priority as a full research topic. Gary Angles will be the SOC lead for this project. Chris Harper to send the draft research needs statement to Jason who will circulate the draft within the group.

Other topics were also discussed:
• Workforce retention and recruiting – look at differences in salaries; differences in skill sets; how States vary. The project needs to have a solid focus. Rob Wight to be the SOC lead. Need to develop the draft soon so that Jason can circulate for input.

• E-ticketing synthesis – ties to safety and workforce. What’s the state of the practice? Doug Gransberg to volunteered to draft, but the project was not further considered.

• Work zone intrusion technology – Possible 20-07 project, but that has an August 25 deadline and needs to be submitted by a State. A research needs statement already exists. Reach out to the AASHTO Subcommittee on Maintenance for co-sponsorship. Rob Wight (Josh) to sponsor.

• Reciprocity of staff certifications – Who is requiring what types of certifications for inspectors, testing technicians, traffic control studies. This would be a synthesis project. It also ties to the AASHTO subcommittee on Materials. Joe Squire, Amy Tootle to sponsor. Doug Gransberg offered to draft.

NCHRP’s deadline is for submitting research needs statements is October 15, 2017. The deadline to submit synthesis projects is February 16, 2018.
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Appendix I

SOC Resolutions
AASHTO Subcommittee on Construction (SOC)
Recognizing the Ohio Department of Transportation
Host of the 2017 AASHTO SOC Summer Meeting in Cincinnati, Ohio

WHEREAS, The AASHTO SOC met in Cincinnati, Ohio, August 13 through August 17, 2017; and

WHEREAS, SOC members from the states and FHWA were greeted warmly with hospitality by Ohio Department of Transportation State Construction Engineer, Gary Angles and members of his helpful, friendly staff…; and

WHEREAS, the SOC members were informed about Ohio’s Smart Corridors, its Veteran’s Memorial Highway P3 project, and challenged early to learn what Goetta is and where in Ohio is Porkopolis…; and

WHEREAS, the SOC met and successfully discussed highway construction business and technical issues such as contract time extensions for non-critical activity delays, construction partnering, performance specifications, new and emerging HMA technologies as well as various technologies for construction contract inspection and management…; and

WHEREAS, the SOC members engaged in enlightening and informative discussions of state topics raised by members benefiting all that participated….; and

WHEREAS, the SOC members were treated to an evening in the Cincinnati Reds Hall of Fame where several members got to show off their, ummm, “pitching skills” before a fun evening of great food and socialization….; and

WHEREAS, the SOC members were offered technical tour options of the Banks Technical Tour complete with Daredevil climb and walking tour or the Lytle Tunnel Technical tour…; and

WHEREAS, the SOC members were well feed every day with meals featuring local cuisine and our collective waistlines thank you for not having desert with every meal…; and

WHEREAS, the SOC was treated to an outstanding dinner banquet to wrap up the wonderful week of meetings, education, friendship, and fellowship…; and

THEREFORE BE IT RESOLVED, that the participants of the 2017 SOC have enjoyed their stay immensely, appreciated the commitment and dedication of the Ohio Department of Transportation staff, and offer its thanks for a successful conference…, and

BE IT FURTHER RESOLVED, that the AASHTO SOC members have established an effective date of this resolution of August 17, 2017 at the SOC summer meeting in Cincinnati, Ohio.

Highways Subcommittee on Construction
Resolution to recognize David Hoyne for outstanding service to the Subcommittee on Construction
WHEREAS, the Subcommittee on Construction (SOC) was created under the American Association of State Highway Transportation Officials (AASHTO) Standing Committee on Highways to support members with guidance for construction operations of the evolving transportation system, and addresses new challenges through leadership and innovation;

WHEREAS, David Hoyne graciously volunteered his time and expertise to SOC, providing invaluable guidance, insights, and perspective, throughout his tenure;

WHEREAS, David Hoyne has served on SOC with great professionalism, dedication, and distinction;

WHEREAS, David Hoyne's unwavering service will leave a lasting impression on SOC in fulfilling its mission in the future;

NOW, THEREFORE, BE IT RESOLVED that on this 17th day of August, 2017, the Chairs of SOC acknowledge and extend their gratitude to David Hoyne for his dedicated service and notable contribution to the vision and mission of SOC.

Malcolm Dougherty, Chair of SOC
Robert Wight, Technical Section Chair
Marc Mastronardi, Technical Section Chair
Gary Angles, Technical Section Chair
Joseph Squire, Technical Section Chair
Jason Humphrey, Technical Section Chair