

FINAL POSTED
WAPA/WSDOT Paving Work Zone Risk Reduction Joint Committee
AGC of WA Facility Fife, WA
January 25, 2018

Attendees:

Bob Adams; Atkinson Construction (AGC Co-Rep)	Eric Mock, Lakeside Industries – <i>1st meeting</i>
Cal Beyer, Lakeside Industries (Co-Lead)	Amir Rasaie, WSDOT
Dave Bierschbach, WSDOT (Co-Lead)	Kris Rietmann, WSDOT
Jon Deffenbacher, WSDOT – <i>1st meeting</i>	Mike Stein, Granite
Doug Donegan, Granite	Doug Stiffarm, Miles Resources
Dave Gent, WAPA	Brian Van, Atkinson Construction (AGC Co-Rep)
Steve Haapala, WSDOT	Brian White, WSDOT
Torrey Johnson, Tucci & Sons	

Members not able to attend meeting:

Travis Brock, Shield of Armor Safety	John Nisbet, WSDOT
Mike Bussard, PR Systems	Mark Ottele; Granite
Chris Christopher, WSDOT	Josh Swanson, Operating Engineers
Bill Dempsey, Lakeside Industries	Billy Wallace, NW Laborers
Al Hughbanks, Inland Paving (Oldcastle)	

Notes on Membership:

- Jon Deffenbacher from WSDOT is replacement for Dave Erickson (retired)
- Eric Mock (Project Manager) from Lakeside Industries is replacement for Mike O'Neil of Lakeside Industries.
- Kris Rietmann of WSDOT added as permanent member due to ongoing nature of Work Zone Safety Awareness Campaign Subcommittee
- Amir Rasaie will assume co-leadership role from Dave Bierschbach (who will remain Committee member)

#1. Meeting called to order. Emergency/safety procedures for facility were reviewed.

#2. Dave Gent reviewed WAPA Anti-Trust Acknowledgement. All attendees signed in.

#3. Update on Committee Presentations – Dave Bierschbach provided an overview of the three presentations on the WAPA/WSDOT Paving Work Zone Committee meetings held since the October 2017 meeting. The purpose of these presentations is to expand awareness of the outcomes from this Committee. The feedback from these discussions was positive.

- a. WSDOT's Statewide Project Engineer Meeting -- 11/3/17
- b. WAPA Annual Meeting -- 11/9/17

- c. AGC/WSDOT Annual Meeting -- 1/4/18

Action Steps:

1. Dave Gent requested update/overview presentations at the upcoming 2018 Joint WAPA/WSDOT Training sessions. Each presentation will be allocated up to 45 minutes to share highlights from the Joint Committee. The following Committee members volunteered to partner on presentations:

- a. February 27th in Moses Lake – Dave Bierschbach and TBD
- b. February 28th in Centralia – Jon Deffenbacher and TBD
- c. March 1st in Lynwood – Amir Rasaie and Mark Ottele

2. Dave Bierschbach offered to update presentation and share it on Basecamp and also with those Committee members volunteering to present at these meetings.

3. Share Construction Bulletin on GSP for Variable Speed Limits and RSDS at the 2018 Joint Training sessions.

#4. Pilot Project Results on Variable Speed Limits – Steve Haapala shared that his report was complete. A Construction Bulletin was issued by Chris Christopher and John Nisbet on 1/22/18 providing implementation of the variable speed limits on appropriate projects. Steve Haapala and John Deffenbacher were listed as contacts regarding the bulletin, which will help the feedback loop to the committee should on this issue. The group discussed other options for implementing these speed limits, such as the design/build project on I-5 in downtown Seattle.

Action Items:

1. Steve Haapala will report on any items related implementation of variable speed limits at the October 2018 Committee meeting.
2. Cal Beyer and Steve Haapala will work with Dave Gent on an article for the WAPA newsletter by 2/15.

#5. Pilot Projects Using Special Provision on the Reimbursement of Law Enforcement in Work Zones – Jon Deffenbacher advised that this is not a General Special Provision at this time. Rather, it is a special provision being used on pilot projects in 2018. He shared that none of the pilot projects has begun work as of this time. He advised that by February/March at least 6 of the pilot projects will be out to bid with this special. Amir Rasaie discussed the need to have a specific framework of what law enforcement can be used for. A Construction Bulletin was issued by Chris Christopher and John Nisbet on 1/22/18 had information regarding this GSP. Steve Haapala and John Deffenbacher were listed as contacts on the bulletin, which will help the feedback loop to the committee on this issue.

Action Items:

1. Jon Deffenbacher will monitor progress of projects where this special provision is being piloted in 2018 and solicit feedback.
2. John Deffenbacher will provide a status report with preliminary recommendations for 2019 at the October 2018 Committee meeting.

#6. 2018 Work Zone Safety Awareness Campaign — Kris Rietmann shared a progress report of the subcommittee. She shared the list of participants, subcommittee work schedule, objectives, implementation options, and next steps. They have lined up a consultant for the public awareness campaign. The cost of the

consultant would be \$99,000. Kris does not have the budget for hiring a consultant, but will have existing WSDOT communications staff across the state work on the campaign. Contractors discussed funding for the campaign. There will also be national campaigns for work zone awareness week campaign by various groups that will also help get the message out.

Action Items.

3. WAPA and AGC will work together to solicit funding from members for this campaign.
4. Committee members will solicit employees for participating with interviews for the public awareness campaign. Kris indicated a due date of February 9th. Kris stated she would like to receive up to 20 different nominees to be featured in these interviews for inclusion with the campaign.

#7. 2017 Summary Update on WSP High Visibility Enforcement Program – John Nisbet was not available to attend this meeting. Kris Rietmann provided update from Washington Traffic Safety Commission that this program will continue to be funded by a grant in 2018.

Brian White provided a summary of a 2017 HIVE Swarm on the I-90 project from Cle Elum to Snoqualmie Pass with 3,000 law enforcement contacts with drivers resulting in 2,300 citations (including 2 DUIs and 7 negligent driving charges). A total of 3,100 WSP patrol hours were involved in this enforcement activity.

Action Items:

1. Dave Bierschbach or Amir Rasaie will follow-up with John Nisbet to request an update so this can be incorporated into the 2018 WAPA/WSDOT Joint Training session presentations.
2. Brian White will invite Grant Clark from WSP to attend the April 2018 meeting in Cle Elum to provide an update from WSP on the HIVE special enforcement campaign.

#8. New Business

- a. **Ticketless System Pilot Project** with AGC & Tucci/Lakeside/KLB Construction – Discussion occurred that applications for ticketless system are out there. A question is what type of system would WSDOT and FHWA accept for documentation and payment on federal and state funded transportation projects. Jon Deffenbacher indicated WSDOT would like to eliminate ticket takers for safety reasons and WSDOT is looking at electronic construction records options. Bill Grady of KLB and Marco Foster of WSDOT co-chair the AGC committee that is working on this issue.
- b. **Proposed WA Legislation – HB 2087/SB 5841 -- Roadway Worker Safety** – Cal Beyer provided a summary of this proposed legislation and thanked Committee members Josh Swanson and Billy Wallace for advocating on this topic in Olympia.
- c. **Devices to increase visibility of workers in work zones**
 - Halo Light by Illumagear is now wireless with rechargeable batteries and no “clunky” battery pack.
 - Brimguard is an available retroreflective lighting option that comes in different colors.

- d. **Roller mounted arrow boards used on work zones in Oregon.** The group discussed the pros and cons of this and had some questions

Action Items:

1. Jon Deffenbacher will check in to progress of the AGC group and other issues related to electronic ticket taking and report back at the April meeting.
2. Steve Haapala will contact Scott McKenna of Oregon DoT to inquire about the agency's recommended/specified use of roller mounted arrow boards in work zones and request copy of Traffic Control Plan and post updates on Basecamp.

Upcoming 2018 Meetings:

- April 24, 2018 – 9 to 12 noon at Bullfrog Maintenance facility in Cle Elum
- October 18, 2018 – 9 to 12 noon at AGC of WA Fife

Submitted by: Dave Bierschbach, Cal Beyer & Amir Rasaie on 2/3/18

FINAL VERSION APPROVED FOR POSTING
WAPA/WSDOT Paving Work Zone Risk Reduction Joint Committee
AGC of WA Facility Cle Elum, WA
April 24, 2018

Attendees:

Bob Adams; Atkinson Construction (AGC Co-Rep)	Mark Ottele; Granite
Cal Beyer, Lakeside Industries (Co-Lead)	Amir Rasaie, WSDOT (Co-Lead)
Dave Bierschbach, WSDOT	Kris Rietmann, WSDOT
Dave Gent, WAPA	Doug Stiffarm, Miles Resources
Steve Haapala, WSDOT	Brian Van, Atkinson Construction (AGC Co-Rep)
Eric Mock, Lakeside Industries	Brian White, WSDOT

Members not able to attend meeting:

Travis Brock, Shield of Armor Safety	Eric Johnson; Central WA Asphalt
Mike Bussard, PR Systems	John Nisbet, WSDOT
Chris Christopher, WSDOT	Allison Russell; Central WA Asphalt
Jon Deffenbacher, WSDOT	Mike Stein, Granite
Bill Dempsey, Lakeside Industries	Josh Swanson, Operating Engineers
Al Hughbanks, Inland Paving (Oldcastle)	Billy Wallace, NW Laborers
Torrey Johnson, Tucci & Sons	

Guests Attending:

- Marcus Smith; Washington State Patrol
- Dustin Drout; Washington State Patrol

#1. Meeting called to order. Emergency/safety procedures for facility were reviewed.

#2. Dave Gent reviewed WAPA Anti-Trust Acknowledgement. All attendees signed in.

#3. Update on WSP High Visibility Enforcement Program in Construction Work Zones – Brian White invited Grant Clark from the WSP to attend and he sent two WSP troopers as he was not available. Marcus Smith & Dustin Drout attended and Acting Lt. Smith provided an update on the shift from law enforcement presence in a work zone to active enforcement. WSDOT had WSP increase enforcement in 2017 using 2 shifts of officers during the construction season (7 am to 3 pm & 2 pm to 10 pm) when traffic volumes are highest.

Statistics provided for 2 projects where emphasis was on reducing fatalities:

Activities/Results	Hyack Project	Elk Heights Project (Cle Elum)
Law Enforcement Hours	3,136	2,694
# of Contacts with Motorists	2,960	1,569
# of Citations (all outside work zone)	2,969	1,064
Speed-Related Citations	2,280	908 (85.3%)
Major violators taken off the road	2 DUIs; 3 reckless & 7 negligent driving	1 DUI; 1 reckless & 4 negligent driving

Note: Enforcement hours does not include the additional enforcement of trucks and aggressive cars around trucks conducted by the Commercial Motor Vehicle Division of WSP.

Marcus Smith advised that he can be a point person for additional data from the WSP. He said the agency collects and analyzes large amounts of data to evaluate effectiveness of law enforcement activities.

Action Items:

1. WSDOT to continue providing updates for contractors on WSP High Visibility Enforcement campaigns.

#4. Update on Committee Presentations –

Dave Gent and Dave Bierschbach provided positive feedback on the presentations at the 2018 Joint WAPA/WSDOT Training sessions to share highlights from the Joint Committee. A primary focus was to share information on the Construction Bulletin on GSP for Variable Speed Limits using radar speed display trailers. Overall awareness of the WAPA/WSDOT partnership continues to grow.

Action Item:

1. AGC National's annual Work Zone Safety Campaign was discussed. A link to the survey was posted on the Basecamp site to be accessed by any member who wished to complete it. When the survey results are reported these will be posted on Basecamp as well.

#5: 2018 Work Zone Safety Awareness Campaign — Kris Rietmann & Mark Ottele

The fundraising efforts are going well. There is a good response by the construction industry and so far, we have commitments for \$86,000 out of the target of \$99,000. WSDOT's Memorial Event had good participation and it was great to have Dave Gent attending, representing the contracting community. There is a push in the campaign to provide information via social sites and the media. The team will produce and utilize pictures of contractor employees both at work and at home in order to humanize the messages. The team is sending out blogs and sharing it with the media. In the month of May the focus of the team will be on emphasis for patrol and enforcement and in June the focus will shift to work zone safety awareness.

The team missed the Traffic Safety Commission's deadline (January) for applying for grants for the campaign. We need to do a better job of tracking and applying for grant opportunities in the future.

There is still a call out to come up with additional people/employees for the blogs. Atkinson, Lakeside and Granit have provided names. We need additional people/employees from other contractors.

Action Items:

1. Collect the money from the contractors that have made pledges and find additional donors to reach the funding target.
2. Contractors to provide additional employees for the blogs
3. Kris and Mark to provide periodic updates to the team and an update in the October meeting on the progress of the Campaign.

#6: Project Results on Variable Speed Limits – Steve Haapala

Steve provided an update to the team that there are 6 projects in the 2018 construction season that include the Variable Speed Limit with the associated traffic control plan and the regulatory speed reductions:

1. SR 21 Et Al 2018 Eastern Region Chip Seal. Speed Reduction to 35 MPH with Radar Speed Display Sign (RSDS)

2. SR 522 SR 9 Vic to Snohomish River Bridge Paving. Speed limit reduction to 45 MPH with RSDS
3. SR 167 Milwaukee to S. of Pierce County Line. Speed reduction to 35 MPH with RSDS
4. I-5 Stillaguamish River Br. To Hill Ditch Road PCCP rehab and paving. Speed limit reduction with RSDS
5. US 395 Deer Park Corridor Intersection Improvements. Speed limit reduction with RSDS

He also discussed that he was not aware of any information on the effectiveness of this strategy in work zones with two lanes open to traffic. The I-5 MLK to Ravenna DB project is planning to experiment with this concept this summer that should give us the opportunity to examine its effectiveness.

Action Items:

1. Steve Haapala posted information on Basecamp pertaining to the ODOT specs for arrow boards for rollers
2. Steve Haapala will report on the results from the Variable Speed Limits at the October 2018 meeting.

#7: Reimbursement of Law Enforcement in Work Zones – Dave Bierschbach provided a summary from Jon Deffenbacher. The new Reimbursement of Law Enforcement Spec was included in 5 projects this year. Dave B will follow up with Jon D to see if there are additional projects that include this spec. On projects without this specification, it is expected that contractors and WSDOT project teams will have an open communication and collaboration on the effective use of WSP as planned/allowed in contracts.

Action Items:

1. Joh Deffenbacher to provide an update on the effectiveness of the new specification in the piloted project in the October 2018 meeting and discuss any needed adjustments to the spec before full implementation.
2. The goal is to have a full implementation of the spec in time for the 2019 construction season.

#8. Ticketless System Pilot Project with AGC – Dave Bierschbach provided an update from Jon Deffenbacher. Dave discussed that this is a standing item with the AGC. WSDOT is working with FHWA on other alternatives on collecting tickets such as one that WSDOT inspector will observe and record the truck activities associated with material deliveries and collect and match tickets at the end of the shift with their observation.

Action Items:

1. Jon Deffenbacher to provide an update on the progress of the discussions with FHWA in the October 2018 meeting.

#9. WA Legislation Roadway Worker Safety Passed – Cal Beyer shared that information on the new state law has been posted in Basecamp. The roadway safety law is the second major law impacting work zone safety after 2017's new distracted driving legislation. No action items identified for the entire group. Cal advised he would speak with Dave Gent about engaging WAPA lobbyist to keep contractors abreast of pending work zone safety legislation. Cal further mentioned that the Committee representatives from the Laborers and Operating Engineers continue to offer their contacts and services to assist in promoting work zone safety legislation.

#10. Common Concerns and Challenges of Silica Dust Mitigation in Work Zones – Dave Bierschbach presented an overview of WSDOT's position and planned actions on this topic. He shared information compiled by Jon Deffenbacher.

The entire construction industry is preparing for implementation of the L&I silica rule on October 1, 2018. WSDOT has started training for its employees, and changes will be made to our safety manual and construction manual. Contractors working on highway construction projects are subject to the rules for their employees. Dry sweeping/brushing and the use of compressed air to clean clothing and surfaces are expressly discussed in 296-840 WAC and not included in the exposure control table, so those are the practices that pose the biggest challenges.

Action Items:

1. WSDOT continues to move away from prescriptive specifications to avoid directing how work is performed. This is critical under this new rule. Therefore, WSDOT will remove direction to use dry sweeping and compressed air to clean surfaces. Rather, attempting to state a level of cleanliness that must be achieved.
2. WSDOT has performed an internal review of specifications that prescribe the use of dry sweeping and compressed air. Most are relatively simple to address, but there are a few that pose challenges.
 - Chip seal – surface preparation, chip application, and post application sweeping present the biggest challenges
 - Cleaning cracks for sealing – includes CCP and HMA roadways
 - Preparing bridge decks for MCO.
3. Next step is to engage industry to review specification revisions and focus on the challenges noted above. We've identified contacts from the main joint teams. Meeting will be scheduled in early May with anticipation of making specification changes by fall 2018.

Upcoming 2018 Meetings:

- October 18, 2018 – 9 am to 3 pm at AGC of WA Fife
- Proposed/TBD: Nov/Dec 2018 – Strategic Planning for 2019-2020

Submitted by: Cal Beyer & Amir Rasaie on 5/15/18; updated on 5/30/18 as Final Version Approved for Posting

DRAFT VERSION APPROVED FOR REVIEW UNTIL JANUARY 11, 2019
WAPA/WSDOT Paving Work Zone Risk Reduction Joint Committee
AGC of WA Facility Fife, WA
October 18, 2018

Members in Attendance:

Bob Adams; Atkinson Construction (AGC Co-Rep)	Eric Mock, Lakeside Industries
Cal Beyer, Lakeside Industries (Co-Lead)	** Craig Nickel, Lakeside Industries
Dave Bierschbach, WSDOT	Mark Ottele; Granite
Chris Christopher, WSDOT	Amir Rasaie, WSDOT (Co-Lead)
Dave Gent, WAPA	Kris Rietmann, WSDOT
Steve Haapala, WSDOT	Josh Swanson, Operating Engineers
** Derek Helt, Inland Asphalt (Spokane)	Brian Van, Atkinson Construction (AGC Co-Rep)
Torrey Johnson, Tucci & Sons	** Kevin Waligorski; WSDOT (representing Jon Deffenbacher)
** Frederick Lintz, WSDOT	Brian White, WSDOT

*** signifies 1st meeting*

Members not able to attend meeting:

Travis Brock, Shield of Armor Safety	Mike Stein, Granite
Mike Bussard, PR Systems	Doug Stiffarm, Miles Resources
Jon Deffenbacher, WSDOT	Billy Wallace, NW Laborers
Eric Johnson/ Allison Russell; Central WA Asphalt	Rob Wynegar; Granite
John Nisbet, WSDOT	

Guests Attending:

Lt. Mark Tegard; Washington State Patrol	Dr. John Gambatese; Oregon State University; School of Civil Engineering	Joanna Lowrey; Kelso Area Engineer; WSDOT (via phone)
Scott Chalkley; Oregon DoT	Jeff Herriford; Lakeside Industries	

#1. Meeting called to order. Emergency/safety procedures for facility were reviewed.

#2. Dave Gent reviewed WAPA Anti-Trust Acknowledgement. All attendees signed in.

#3. Introductions. All Committee members introduced themselves. Invited guests were introduced with background by Committee members of why each guest was invited. Special mention made of Scott Chalkley representing Oregon Dep't of Transportation and Dr. John Gambatese of Oregon State University. Both professionals serve on the ODOT Work Zone Executive Safety Strategy Session of which Cal Beyer has been appointed to serve beginning with meeting on December 10, 2018.

#4. Old Business Updates:

A. Ticketless System Pilot Project with AGC (Kevin Waligorski presented for Jon Deffenbacher).

- No new specification has been created to allow electronic submission. The existing specification does not preclude it from being transmitted electronically.
- An electronic ticket will need to contain all the same data as a printable paper ticket.
- Existing best practice for electronic system is Louisiana DOT using Pavia Systems Headlight tablet system. This will be discussed at the upcoming 2018 WAPA Annual Meeting in November.
- WSDOT can add electronic ticketing to contracts by change order if contractors are interested.

Action Item:

1. WSDOT is seeking a paving contractor to pilot using a ticketless system.
 - Mark Ottele will check with Granite to see if this can be supported
 - Torrey Johnson advised that Tucci remains interested
 - Cal Beyer offered to ask Lakeside IT after 1/1/19 if no volunteer has been confirmed.

B. WSDOT Specifications Affecting Contractor Compliance With Silica Regulations (Kevin Waligorski presented for Jon Deffenbacher).

- a. WSDOT continuing to review existing specifications to see if less prescriptive specifications can reduce potential conflicts with contractors complying with silica compliance regulations.
- b. No new construction specifications have been changed and no new Construction Bulletin issued as of yet.
- c. WSDOT is developing and implementing safety measures for WSDOT staff and activities. WSDOT has begun silica air monitoring activities for its maintenance activities.

Action Item:

1. WSDOT clarify if the agency intends to convene a work group with contractors to discuss possible changes to specifications (less prescriptive) for chip sealing, crack sealing, modified concrete overlays, and not using wet dust suppression when applying adhesive-backed bridge deck membranes.

C. 2018 Work Zone Safety Awareness Campaign (Kris Rietmann & Mark Ottele).

Recap of 2018 highlights:

- Work Zone distracted driving safety video and joint fundraising spearheaded by WAPA and AGC contractors
- Use of drones in work zones to produce videos posted on WSDOT Project Blog and social media accounts during high profile road closures and started seeing changes in driving behaviors and less negative presence on social media posts
- There were over 400,000 reactions on Facebook with a lot of engagement.
- WSDOT Employee Blogs included WAPA Paving Contractor Blogs
- NAPA and numerous other state asphalt pavement associations broadly shared the WSDOT work zone distracted driving safety video
- WSDOT Worker Memorial Campaign

- Bob Adams of Atkinson offered communications and strategic planning consultant Kathy Hagler of K2OH Solutions available to WSDOT to help identify possible grants and other funding sources
- Kris Rietmann nominated work zone distracted driving video for AASHTO Communication Award.

Action Items:

1. Post summary handout of subcommittee actions and outcomes on Basecamp project portal.
2. Kris Rietmann agreed to reach out to ODOT's Dave Thompson to discuss how WZESSC Communications Task Force pulls communications funding.
3. Discuss best practices and if WSDOT and ODOT can share resources for a potential Pacific Northwest regional Safety Awareness Campaign.
4. Goals for 2019:
 - a. Identify and seek grants to continuing producing work zone safety awareness promotional media
 - b. Build partnerships with insurance industry association or possibly individual company as possible funding sponsor
 - c. Continuing driving closer alignment with WA Traffic Safety Commission on Target Zero and demonstrate how work zone safety fits this campaign.
 - d. Obtain data from WSDOT Traffic Operations and compile report on work zone incursions/intrusions and collisions to create more focused marketing and communications strategies

D. Update on WSP High Visibility Enforcement Program in Construction Work Zones – (Lt. Mark Tegard, WSP; and Brian White; WSDOT).

Summary provided of how the grant program for high visibility emphasis patrols for DUI, Distracted Driving, high collision areas and work zones). WSP is targeting I-90 statewide from Seattle to Snoqualmie Pass to Spokane and the Idaho border, with emphasis on high collision areas. In 2017, there was 30% reduction in collisions and 70% increase in compliance by drivers. This included WSP targeting speed reduction and traffic enforcement for younger drivers with 3 major emphasis patrol events in 2018:

1. WSU Weekends – Thanksgiving and Spring Break
2. Spokane Hoopfest
3. Paradiso Festival at The Gorge

WSP is seeking to “confuse” the WAZE app by saturating the roads with officers to work around the **WAZE notifications** of officers ahead. For example, WSP deployed 10 motorcycles to one area; drivers would pass 2 officers, then 2 more, then 2 more, etc. This makes it hard for WAZE to assess how many officers there really are and in what location. The intent is to reduce speeds for longer distances.

Action Item:

1. Lt. Mark Tegard volunteered to represent WSP as a standing member of this Committee. Consensus from the group that this is welcome participation by the WSP.

E. 2018 Project Results on Variable Speed Limits: Lessons Learned and Recommended Next Steps – (Steve Haapala and Fred Lintz)

- Best use for variable speed limits using RSDS is 2 lanes when closing 1 lane and keep RSDS trailer close to the work zone to reduce speeds in active part of the work zone while workers are present.
- Based on the experience in the 2018 construction season with the variable speed limits, WSDOT has come up with additional guidance for region traffic engineers to help achieve consistency in setting speed limits in the work zone across the state.
- Emphasized that variable speed limits using RSDS is one tool in a full toolbox and should be used in combination with other tools as necessary that can be approved by WSDOT, including PCMS and VMS, advance warning signs, tighter taper rates using channelizing devices as needed to reduce speeds, rumble strips, adding TMAs, using barrels for tapers, etc.
- Advisory speeds wouldn't be able to be enforced. Dr. John Gambatese stated research shows most drivers won't know the difference between advisory and regulatory; Trucks are the exception as they know the difference and which is enforceable and which is not.
- Bob Adams shared the experience on Atkinson's Revive I-5 Design-Build contract where variable speed limit and RSDT was used in 2 lanes open to traffic configuration and this strategy was found to be ineffective with drivers not slowing down.

Action Items:

1. WSDOT to continue education among Regional staff to improve consistency in setting speed limits in the work zone as contractors felt like different answers were given in different regions.
2. WSDOT to enhance the existing GSP and model work zone plans to show difference set-up if speed limit signs are advisory vs. regulatory.
3. Contractors need improvement sign management processes to achieve greater consistency managing signs throughout the shift; getting them up promptly as well as sign management as the work zone moves so the speed trailer moves with mobile work zone.

F. 2018 Project Results using GSP on Reimbursement of Law Enforcement in Work Zones: Lessons Learned and Recommended Next Steps (Kevin Waligorski for Jon Deffenbacher)

6 pilot paving projects used this GSP in 2018 pilot. Only 1 project needed to use the GSP. See summary below from I-5 project. All 2019 projects will have this GSP included. Contractors can also request a contract change order if a contract is missing the GSP. WSDOT welcomes feedback from contractors on the planned hours in the contracts during advertisement windows and before bidding.

G. Lessons Learned on I-5 Project using GSP on Reimbursement of Law Enforcement – (Joanna Lowrey and Jeff Herriford, Project Manager; Lakeside Industries)

The project was 70,000 tons of asphalt with schedule of 60 nights of paving and striping. Original law enforcement budget was 540 hours. However, there were 4 intrusions and accidents in the first 5 nights of paving. A TMA and a rented TCS truck for the traffic control subcontractor were struck in separate accidents. Another recurring issue was cars following materials trucks into the work zone. Contractor's and hired/rental trucks used signs that said "Do Not Follow". Workers felt unsafe and wanted to walk off of the job site and not come back until the conditions were safer. Contractor requested WSDOT provide a second state trooper and other enhancements to TMP.

WSDOT approved request using the GSP and was able to respond and add a 2nd officer within the same day. After adding the second officer, workers felt much safer and there were no additional intrusions or accidents. Updated estimate was 900 hours of law enforcement budget resulting in approx. \$60,000 overage that WSDOT and contractor split 50/50.

Action Items:

1. WSDOT continue to provide training for designers and project engineers on the design of traffic control plans. Contractors request that the training should include more visits to projects under construction to see what it's like to work in the field with the existing TMPs.
2. WSDOT and contractors agreed to collaborate to determine who the responsible party is for coordinating the communications with law enforcement in work zones. Recommendation to develop clear guidance for law enforcement officers working traffic control enforcement duty in work zones. There are many challenges and variables, including different officers on different nights and determine the tasks to perform and where: static patrols vs. active enforcement.

#5. New Business.

A. Overview of Oregon DOT Work Zone Executive Strategy Session (WSESSC) Processes and Work Zone Safety Pilot Project Options (Scott Chalkley; Process Improvement Project Leader; ODOT Highway Division)

A copy of this presentation was posted in the Basecamp project portal. In addition, a list of numerous optional pilot project tools/techniques/approaches used by ODOT has been posted on Basecamp.

Mr. Chalkley's Presentation Covered:

- History of WZESSC
- ODOT mobility and safety commitments -- mobility is required by state statute to consider impact on trucking industry of work zone modifications (speed, width, height, access vs. closures, etc.).
- Bringing all impacted stakeholders to the table to discuss
- Identifying high priority work items (fish bone diagram; Pareto chart of WZ crashes contributing factors)
- Establishing 4 task forces: Separation Mobility; Engineering Enhancements; Law Enforcement; Communications
- Presented some key deliverables: WZ Guiding Principle; Highway Directive; WZ Decision Tree; Communications Plan; Common Messaging; Communications Funding and Communications Toolkit; WZ Safety Awareness Month press conferences; ODOT / OSU Research; Pilots; LE resource needs; Legislation; Communications Memo for ODOT / Contractors / and OSP to be better aligned and communicating about projects;
- Current Initiatives: WZESSC Governance revisited; WZ Separation Pilots; Blue Lights in Work Zones; OSP Resources; Transverse Rumble Strips; SMART Work Zones with VMS connecting to back of queue; Speed reductions for Temporary Traffic Control; Constructability Reviews; Mobility Vetting Process

Action Items:

1. Cal Beyer accepted appointment to join the WZESSC effective with 12/10/18 meeting. ODOT is willing to accept a WSDOT member if desired.
 2. ODOT Chief Engineer Steve Cooley is willing to be invited to present at an upcoming WAPA / WSDOT meeting to discuss Work zone separation pilots and a case study of the Wilsonville to Woodburn paving project.
- B. **Current Issues and Research in Work Zone Safety** -- Dr. John Gambatese; Oregon State University; Civil & Construction Engineering (25 minutes)

A copy of Dr. Gambatese's presentation has been posted on Basecamp.

Dr. Gambatese highlighted the transportation and work zone research projects he has undertaken for ODOT. Dr. Gambatese is a recognized authority of "prevention in design" (aka "safety through or by design"). His research interests are understanding the antecedents (causes/triggers) of human behaviors and decision-making. He discussed the hierarchy of controls approach to recommending positive protection whenever it is feasible and practical to improve safety of roadway workers and the traveling public.

Gambatese discussed the two driving simulators in use at OSU: one for studying driving behaviors and decisions and the other for bicyclists. These two simulators can be run concurrently to see the intersection of behavioral decision-making.

He discussed the study underway in Oregon for ODOT with respect to evaluating the effectiveness and limitations of blue lights on paving machines. He also discussed the difficulties of implementing intrusion alarm technology on paving projects. He discussed the counter-effects of improving lighting in work zones and how it increase and not decreases speeds

Gambatese discussed the grant process and some ongoing USDOT research projects he is following or involved in:

1. Speed reduction and driver awareness vs. distraction. Reducing speeds prior to work zones and providing a clear path. Does your work zone PASS the test:
 - a. Path
 - b. Attention
 - c. Speed
 - d. Safe Operation
2. Automation – removing workers from exposures and processes whenever practical;
3. Connecting infrastructure to equipment (dynamic signage as an example)
4. Connecting infrastructure to vehicles (Bluetooth and hands-free technologies as an example)
5. Worker illumination during nighttime work
6. Workers Operations design and communication to eliminate hazards

C. Smart Work Zone Technology – Steve Haapala (15 minutes)

Presentation covered techniques to improve traffic flow through work zones, including:

- benefits of queue merging (aka ‘zipper merging’)
- i-cones capturing traffic volume, speed and flow information
- Dynamic messaging using PCMS using cell signals
- Cameras on PCMS using cell signals

WSDOT believes there may be applications for weekend closure projects or on two-lane projects where congestion creates backups and how to keep traffic moving. WSDOT is considering how to build into the contract with details in the plan and specifications and turning over these tools to TCS to manage with vendor support on-site on a per day bid item basis.

D. Brainstorming 2019 Committee’s Work Zone Safety Initiatives and Pilot Projects – the group identified the following issues as possible priorities for 2019:

- a. Updating the action plan on the original 7 paving work zone projects to ensure this Committee has addressed the high priority topics
- b. Completing ticketless pilot
- c. Greater transparency by WSDOT with Traffic Management Plans and law enforcement budgets
- d. Attaining statewide consistency on variable speed limits using RSDSs
- e. Attaining statewide consistency on reimbursement of law enforcement GSP
- f. Examine the use of “rolling slowdowns” by contractors in Traffic Management Plans to reduce speed when other implemented tools are not working as designed/planned/expected. Not typical/traditional WSDOT definition or deployment of rolling slowdown to actually stop traffic for temporary closure as when utility lines or bridge beams are being installed.
- g. Smart Work Zone technology using dynamic queue management.
- h. Continued communication outreach to humanize workers in work zones by sourcing grants or private funding to produce additional social media or media campaigns for work zone safety awareness
- i. Automated Flagger devices or portable traffic signals to eliminate flaggers in high risk roadways
- j. Seeking support from courts and legislature on photo speed enforcement

E. Topics and Speakers at 2018 WAPA/WSDOT Joint Annual Meeting – Dave Gent

It was agreed that an update on the major initiatives of the joint Committee would be presented at the Annual Meeting in November. Mark Ottele volunteered to co-present with Amir Rasaie and they agreed to coordinate on developing a presentation with support from Kris Rietmann from WSDOT Communications.

F. Topics and Speakers at 2019 AGC and WAPA Regional Training Meetings – Dave Gent

The Annual AGC/WSDOT Annual Meeting is scheduled for January 8, 2019. There is no slated presentation for WAPA/WSDOT paving work zone initiatives. See link to agenda:

<https://d1jbk5omxb4scq.cloudfront.net/media/media/000/001/522/original/AGC-WSDOT - 2019 Agenda V2.pdf?1543960708>

Dave Gent agreed to include more WAPA/WSDOT Paving Work Zone risk Reduction Committee in the regional training sessions. He will seek Committee members to participate in each of the sessions to highlight initiatives and successes.

G. Committee Membership Changes for 2019:

Adding New Members	Rotating off Committee
Mandi Kime; Director of Safety; AGC of WA	David Bierschbach; WSDOT
Lt. Mark Tegard; Washington State Patrol	Travis Brock; Shield of Armor Safety
	Mike Bussard, PR Systems
	Al Hughbanks; Inland Asphalt (Spokane)

H. Upcoming 2019 Meetings:

- January 22, 2019 – 9 am to 12 noon – AGC of WA (Fife)
- April 23, 2019 – 9 am to 12 pm – Bullfrog Maintenance Facility; Cle Elum
- July 23, 2019 – 9 am to 12 pm -- AGC of WA (Fife)
- October 23, 2019 – 9 am to 12 pm -- AGC of WA (Fife)

Submitted by: Cal Beyer & Amir Rasaie on January 6, 2019. Posted on Basecamp for review and approval for 5 business days.