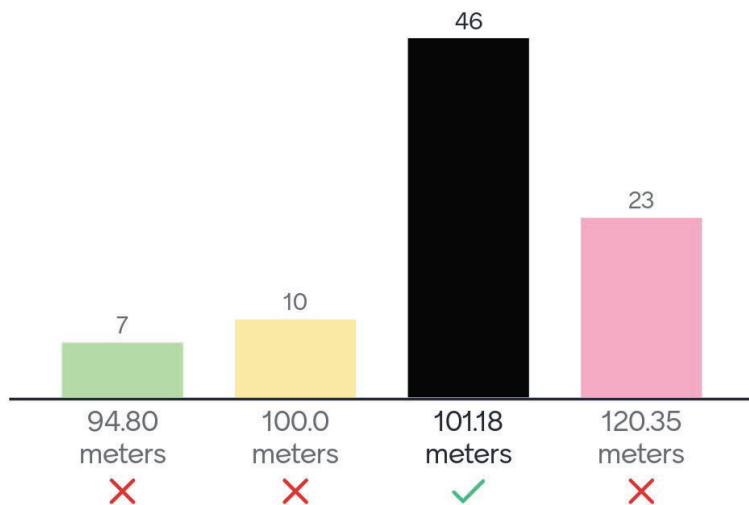


Panel/Open Discussion on Concrete Pumping and Need for Additional Research

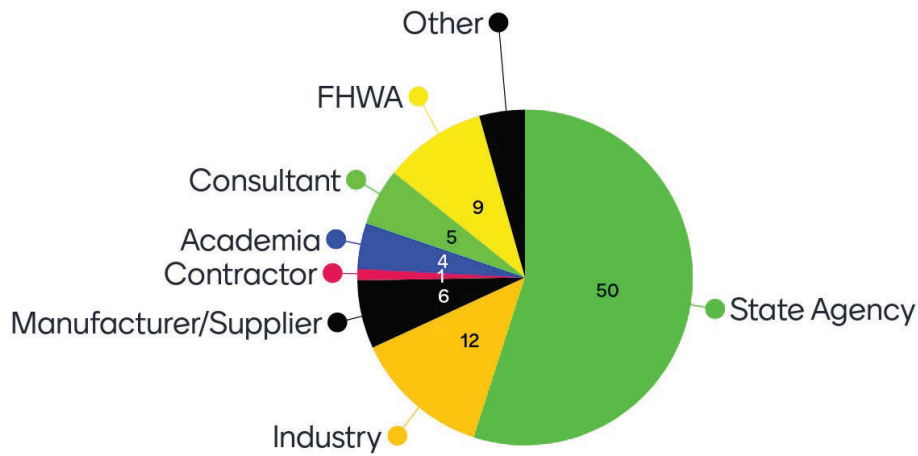
Dan Miller, ODOT, Maria Masten, MnDOT, Tyler Ley - OSU



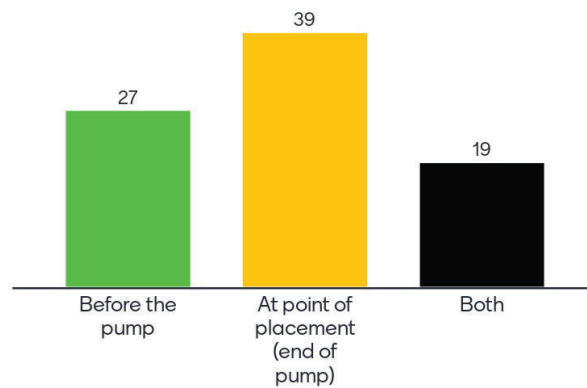
Certified by the Guinness Official Certification Officer, the final boom of the longest concrete boom pump truck in the world is?



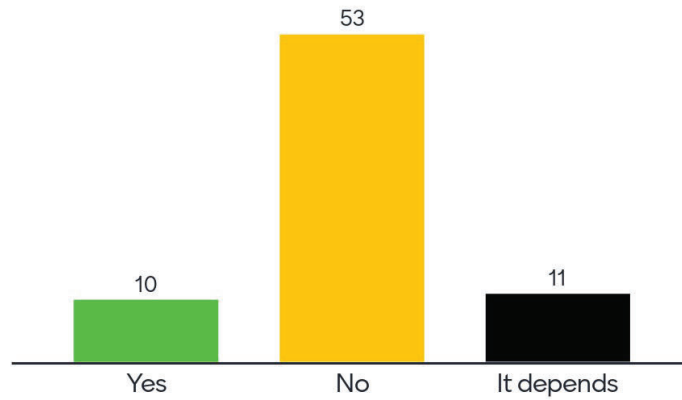
What organization do you represent?



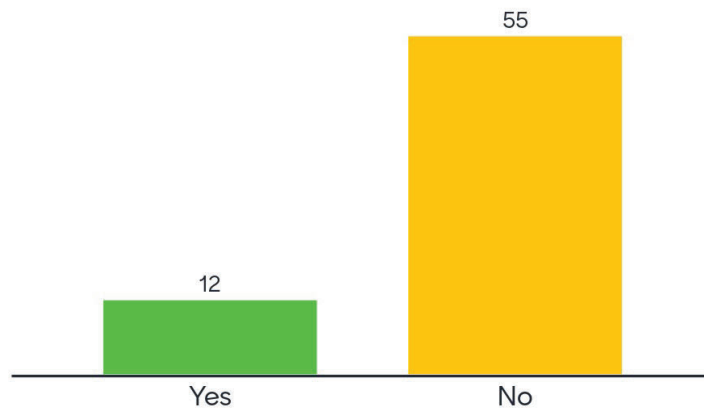
Where does your Agency currently require the concrete sample to be taken when pumping concrete?



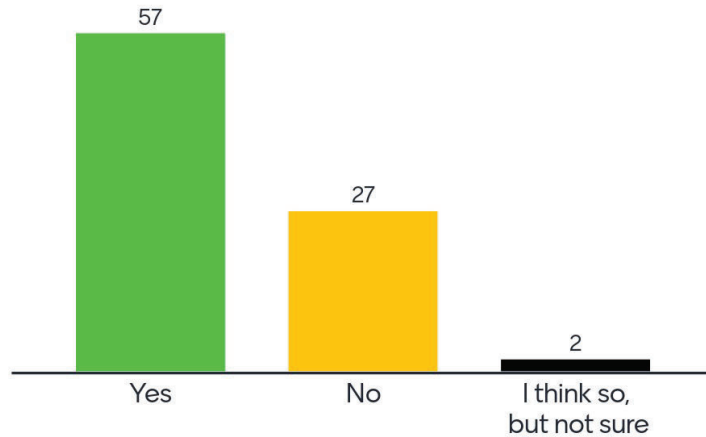
Does your Agency require a pumping QC plan?



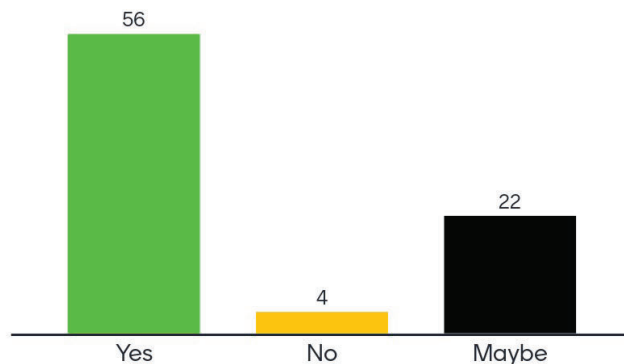
Does your Agency require a test pour when pumping concrete?



Have you heard about the OSU pumping research prior to Tyler Ley's presentation today?



Based on research presented today, should Agencies consider accepting concrete based on air content testing before the pump?



What questions do you still need answered about pumping concrete? 41 responses

Never enough data!!	No	Just Do It
None	What was the fall drop height of the field mixes tested in research?	Just do it
Specify a air loss percentage before and after to control bad practices	Pump operation best practices.	How do pump pressures compare to SAM pressures?



What questions do you still need answered about pumping concrete? 41 responses

Will FHWA approve?	Local mixes confirmation	Is the unit weight stable or also affected and rebounds?
How pump operators can add or decrease air	I feel tiny bubbles are better than big bubbles for freeze thaw.	I want to read more on this research. Interesting topic.
What happens to yield after the pump?	Do states pre-qualify pump trucks for use in their state?	What phenomenon is driving the rebound effect in the paste (which in this case is behaving as a fluid)?



What questions do you still need answered about pumping concrete? 41 responses

Same for blended cements?

Effects of admixture

Volume change associated with air content changes

Should a percent change between before and after the pump be specified? For example, +/- 1.5% difference

Mixes with new alternative cementitious materials

If possible, would like to see a correlation/adjustment factor for air content before and after the pump

More data from different regions and aggregates

Is there support from FHWA?

Do accelerating admixtures give the concrete proper time to regain air?



What questions do you still need answered about pumping concrete? 41 responses

Does line length factor in on air loss?

Will you miss OU in the Big 12?

Does the type of air entraining admixture affect the return rate?

why not having other researchers doing the work to get more perspectives and viewpoints from different parts of the country with different materials and methods

Are state DOT people experienced enough to correct bad pumping behavior??

Do concrete pumps get inspected/certified?

Does time of set effect the amount of air that comes back

What is the make of the pump truck.

Effects of all the unique admixtures



What questions do you still need answered about pumping concrete? 41 responses

Mainline paving-air content before and after the paver. Is the same phenomenon with air content experienced?

Indicated the hardened air volume is similar to air volume before pumping. What are the actual values? Same question involving spacing factor.

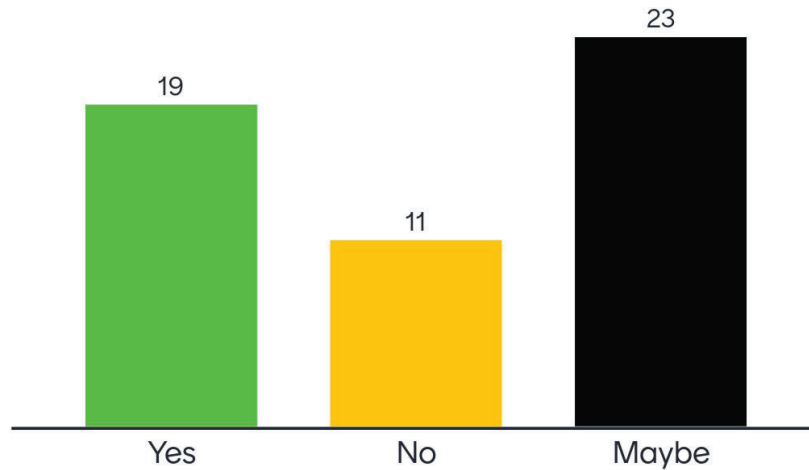
Guide to Pumping - ACI 304.2

nike slogan here

Who is driving the truck.



Is additional research on pumping needed?



What pumping research is needed?

27 responses

None	IP, IS, IT	None
Others to perform the research as well (corroborate)	Max drop height	None
Drop height effects	What is driving the rebound phenomenon?	other people / new universities perspectives



What pumping research is needed?

27 responses

Enough so Tyler can buy a boat!	Drop height	Drop height, pump setup
Research from all DOTS	Research on core testing to back up properties before the pump	I'd be more concerned if the air didn't decrease after pumping, based on what we've seen
Drop height, changing boom config	Max drop height and pressure changes	High elevation testing



What pumping research is needed?

27 responses

Does air entraining admixture type affect the air bubble return rate or percentage?

Confirmation research by others.

Chemical admixtures effects

Do aggregates from different regions and combinations of cements and SCMs play a factor?

Can we get different air tolerances for after pumping?

What Marie spoke of earlier coring and testing before pump from states that have that data. Core structures we have data for.

If quality air is based on mix design what makes it vary

Find circumstances that prove air and Sam are detrimental after pumping going into hardened concrete

Does the AV system redistribute as it is restored?



Audience: Do you have any questions we should ask the group about pumping?

0 questions
0 upvotes