Iowa Concrete Lunch and Learn – Winter 2024 Webinar Q&A

Q1: Will PDH certificates be available?

A1: Yes, PDH certificates were sent out to everyone who logged onto the webinar last week. If you have not received a PDH certificate, please contact Denise Wagner at dfwagner@iastate.edu.

Q2: Have you ever seen a design that accommodates a left turn through the center island for wind turbine blades?

A2: There are a number of different ways to design or adjust roundabouts for use by oversize or overweight vehicles. Kansas State University Transportation Center published a report in 2013, "Accommodating Oversize/Overweight Vehicles at Roundabouts," that details some of these strategies and examples. A free download of this report is available at: https://rosap.ntl.bts.gov/view/dot/25761.

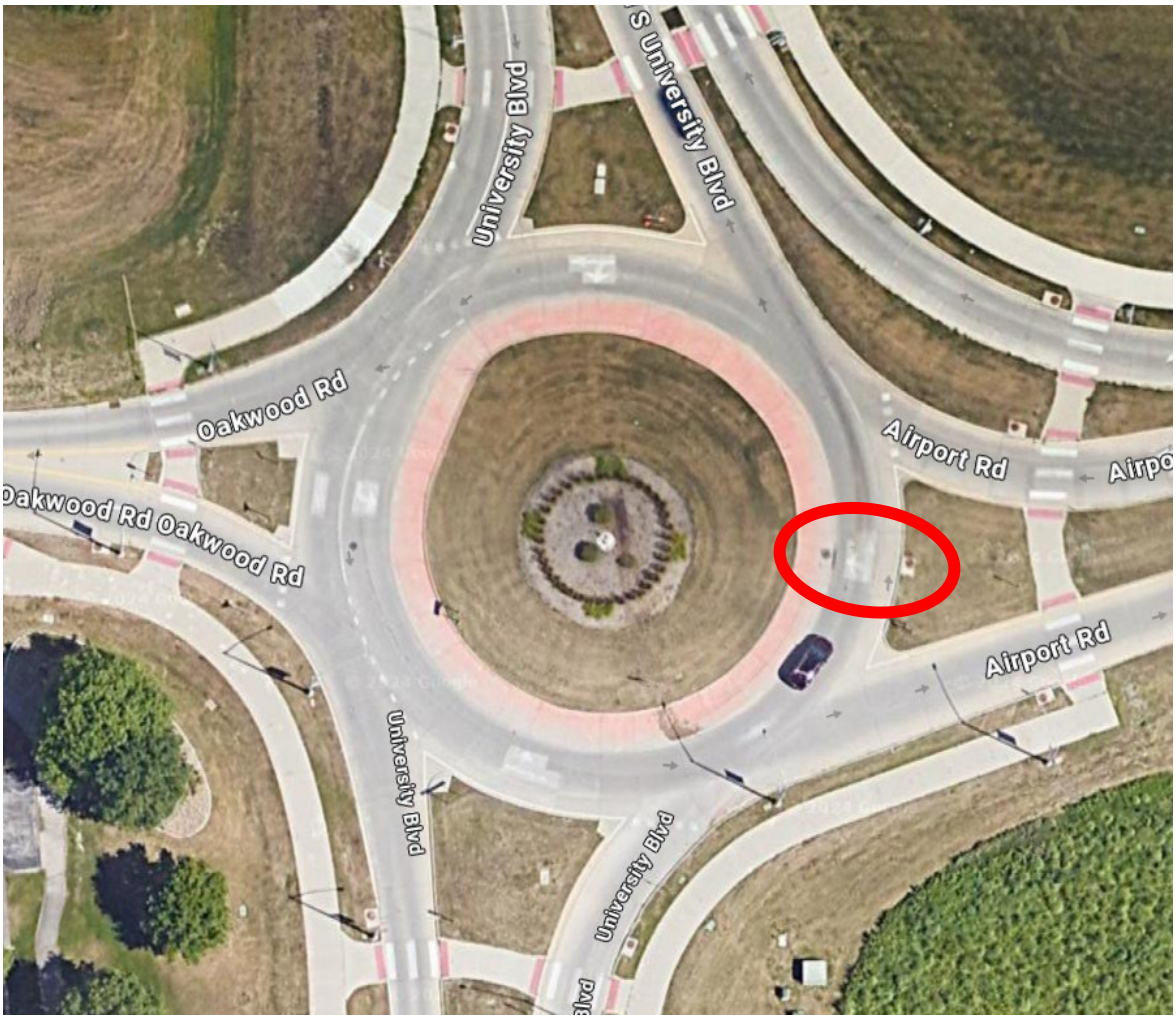
Q3: What about using macro fibers to extend joint distances or reinforce irregular shapes?

A3: Using macro fibers in the concrete mix would be a great alternative to traditional reinforcement to help accommodate irregular slab shapes and potentially to simplify the jointing pattern at difficult locations. Also, Minnesota DOT built an experimental concrete roundabout in 2018 with a high dosage rate of macro fibers in the concrete mix. Instead of sawing transverse joints in the circulatory roadway section, the pavement was allowed to crack on its own. You can learn more about that project here: https://mdl.mndot.gov/items/NRRA202201.

Q4: Have you seen any issues with open throat intakes placed in the center of the roundabout when the cross slope is designed to slope toward the inside curb? (For example, the roundabout in Ames at the research park with the SW-509 intake type.) If there is truck traffic, trucks could offtrack onto the top of the intake. I'm wondering if a different intake like a sloped grated intake would be better.

Q5: When adding intakes along the truck apron, how do you keep them from breaking apart?

A4 & A5: These questions raise an excellent point. Open throat intakes may not be suitable for the curb on the inside part of the circulatory roadway since the curb is designed to be mountable for trucks. In the case of the roundabout in Ames where the open throat intake was placed on the inside curb, it seems to be holding up fine. That intake happens to be located directly across from one of the splitter islands (see picture on next page), so it may not fall within the path of many vehicles. That said, in many other situations, a grate intake may be a better choice.



Q6: Is there anything that should be avoided when staging roundabouts? We have a project where we'll have to carry traffic through construction and will have to build the roundabout in thirds.

A6: When determining a staging plan, it's important to make sure each concrete placement is compatible with the joint layout. Make sure the limits of each placement line up with planned joint locations, and that all joints on one side of a construction joint will match joints on the other side (unless the joints are across an isolation joint). Following these general rules, there should be plenty of room for flexibility on how to stage the project and, as always, the joint layout can be adjusted to accommodate changes to the staging plan.