Rehabilitation of Bridges 1-555

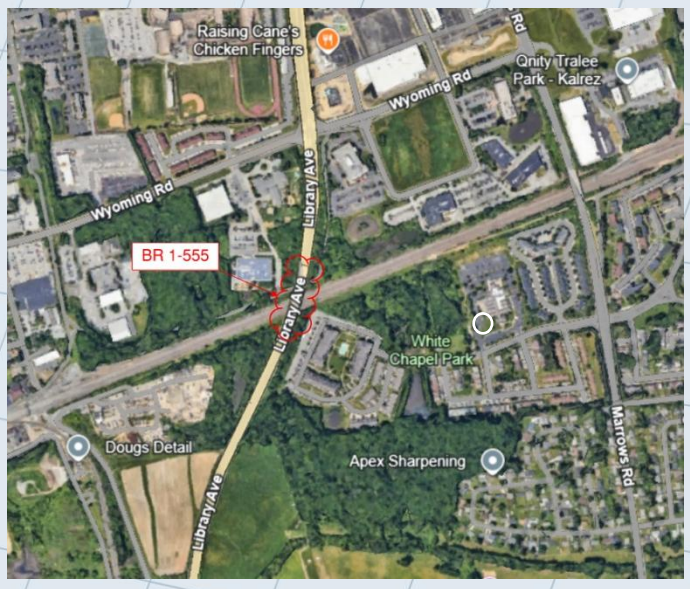
Library Ave. SR 72 over Amtrak

(DelDOT Contract T202407702)

Setting the Scene:

Bridge 1-555 is owned and maintained by DelDOT and is located in the City of Newark. The structure carries Library Ave. over the Amtrak rail line. The existing structure consists of a simply supported steel I-beam superstructure supporting a concrete deck, all of which is carried by concrete abutments and foundations.

Constructed in 1979, BR 1-555 is 400 feet long and carries all traffic for SR 72. The structure is 47 years old and sees approximately 28,000 vehicles per day as of 2024.



Location of Bridge 1-555

Why is the bridge being worked on?

In the winter of 2022 during a stretch of pothole patching on SR 72, BR 1-555 was identified as having extensive damage and spalling to the expansion joints and backwall headers, as well as minor spalls in the deck and substructure. This led to the bridge being placed on an open-end structure maintenance contract. Due to the damaged concrete around the joints, slight movement in the joint armoring is introduced which only gets worse over time eventually leading to the armoring breaking free. This has also led to the strip seal joint glands beginning to de-bond with the armoring allowing for intrusions such as water, salt and debris which can lead to beam and bearing corrosion.

With the extent of damage, the best course of action is the demo and reconstruct the backwall and expansion joints at both abutments across the full width of the bridge. Other work will include patching spalls in the deck and substructure, and also sealing the deck and barriers for preservation.

Damaged backwall/approach slab concrete and damaged expansion joint

Spall in the barrier and missing steel plate

See reverse side for additional information

How do we replace abutment headers and expansion joints?

The first step to making the necessary repairs is to demo and remove the existing headers and joints across the full width of the bridge at each abutment. Then we will install the new reinforcement, set and tie in the new strip seal joint armoring, form the approach slabs and headers, and finally pour the new concrete. While the concrete is curing, the new strip seal joint glands will be installed. During this process spalls in the deck and substructure will be repaired, and cracks in the deck will be sealed. The concrete barrier will also receive a fresh coat of sealer. To facilitate work as quickly as possible, we will be utilizing a full bridge closure and detour. The plan is to finish all work that requires the travel lanes to be closed, then lift the detour before moving on to the rest. Pedestrian access across the bridge will be maintained at all times.

BR 1-555

How will this impact my travel along Library Ave SR 72 and when is this taking place?

As mentioned above, this project will require a detour. Traffic will be rerouted off of Library Ave. SR 72 at the Ogletown Rd. intersection. The detour will follow Ogletown Rd. SR 273, to Chestnut Hill Rd. SR 4, then back to S Chapel St. SR 72. Due to traffic restrictions regarding neighboring schools, this detour is limited to just the months during summer break meaning the bridge will be closed beginning June 11. We anticipate the work to take 8 weeks to complete. For more information regarding this project, please visit the project website.

Who can I contact with more questions, and how?

Any questions, comments or concerns should be directed to DelDOT Community Relations at 302-760-2080 or you may contact us by e-mail at dotpublic@delaware.gov. Please include the project name or contract number when contacting us to expedite our response to any inquiry.