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Travis is doing research for the Utah Department of Transportation at the UWRL, on the different technologies available for repairing or rehabilitating deteriorated culverts. He says that, "Fixing deteriorating culverts that have reached the end of their useful life is vital public safety, as a culvert failure can result in road collapse."

Generally there are two options for dealing with deteriorated culverts, replacement or rehabilitation. The principle advantage of culvert rehabilitation over culvert

replacement is that the need for traffic disruption is reduced.

Culvert rehabilitation technologies typically require no digging on the roadway and the traffic disruption is limited, because the installation is done from the ends of the culvert.

One culvert rehabilitation technique uses a PVC pipe liner that has been collapsed down to an "H" type cross-section (the sides are pinched in to decrease the cross-sectional area of the pipe liner). The liner is heated with steam to make it pliable, dragged through the "host" or old culvert, plugged at both ends, and heated with pressurized steam until it expands and lines the host culvert. Once the liner cools, the ends are trimmed and the rehabilitated culvert is returned to service.



Another technology uses a tube made of a flexible polyester material soaked in resin. Similar to the PVC liner method, the polyester liner is inflated using pressurized steam and an elevated temperature maintained until the resin cures, creating a rigid liner.



Issues such as rehabilitation cost, maximum allowable external load of the rehabilitated culvert, and available flow area of the rehabilitated culvert are other factors important in this study, and ultimately in the selection process for an appropriate culvert rehabilitation technique.