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Bridge Arthritis

Have you ever watched your grandfather get up from a chair? He does it slowly because his joints are a little achy and things aren't as flexible as they used to be. And once he's up, he may not be as far up as he once was. But you love your Grandpa regardless. Just like Cerro Gordo County loves its bridges.

Old wooden bridges are like grandparents. They've sagged in places and don't move quite the same any more, but we like them to be around. When the Wilkinson Park covered bridge burned down in the mid 1990s, a group of volunteers and donors stepped up to replace it. Lots of enthusiasm and generosity, but some deviation from the original plans.



The timber for the bridge was cottonwood, a native lumber from donated trees that were cut to size by a local saw mill. Over 20 years the wood had shrunk, warped and sagged to the point where the safety of the bridge was of serious concern. The slow, but unrelenting movement caused the whole structure to twist in a way that put new stresses and loads on beams that were not intended to support.

WHKS engineers were asked to inspect and monitor the bridge. Eventually, though, it reached the point where collapse was possible if nothing was done. The bridge was closed and the engineering team set about developing a plan to straighten it out, stiffen it and let it get back to being the spot for stolen kisses that covered bridges are supposed to be.



But, like your grandpa, old things don't straighten out so easily. Slow and careful jacking was able to get it back into a reasonable state of alignment. A timber that took 20 years to warp isn't going to be made straight in a day.

It would have been much simpler to design and install a bracing system on the outside of the bridge. But that would have ruined its charming exterior so the team worked to weave new posts and knee braces through the existing structure on the inside of the bridge. This required some very careful coordination with the contractor as they threaded the new struts through the old without taking the old apart.



The new bracing successfully added a lot of much needed stiffness to the structure. It's now open again and charming park visitors who come looking for another of Iowa's famed covered bridges.