

Bridge Replacement Options Refined

On the evening of March 22, 2018, *massDOT* and its bridge design consultants, bridge engineers from *wsp* consulting, met with about 70 town residents in the Northfield elementary school cafeteria. Senator Stanley Rosenberg was also present. Both Senator Rosenberg and *massDOT* personnel indicated that replacement funding was secure.

The consultants presented the revised designs, based upon extensive community input (more than 300 comments), for the top three options preferred by town residents of the original eight designs concepts.

The three design options are summarized here, each with three views presented by *wsp*. All three are shown 18 feet wide with a wood deck - ipe (“ee-pay”) the apparent wood of choice. The designs all include specifications for a 10-ton maintenance vehicle; this would accommodate typical ambulances and police vehicles, though the federal CMAQ grant funding the project is intended for non-motorized-vehicle use.

On the right-hand side of this page are the three views of design option 1; design options 2 and 3 are similarly summarized on the reverse side of this page. The top graphic in each group is an side view of the proposed design; the middle graphic is a closer-up oblique side view, and the bottom graphic is a view along the bridge from on the bridge.

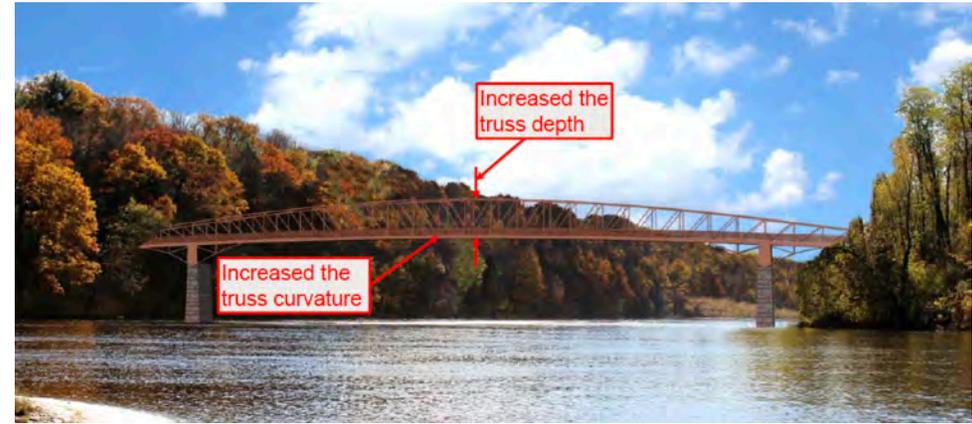
The main revision in option 1, a conventional steel truss, is that there is more curvature in the arch of the truss than in the original version (which was quite “flat”).

The main revision in option 2, a tunable steel tied arch, is that the inner truss does not extend beyond the outer arches as they did in the original design. It’s obvious from the bottom graphic of option 2 that there are two “roofs” (top side-tying truss members) in this option. This design effectively has a steel truss inside the tied arch; “tunable” means that the live/dead loads of the bridge can be optimized between these the inner truss and outer arch.

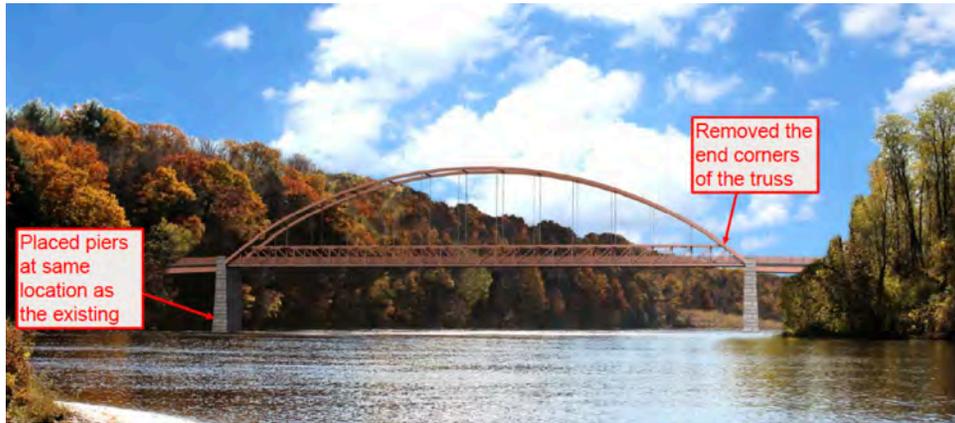
Option 3, a tied steel arch, is a combination of earlier versions 3 and 6, as per community input. “Tied” means that the arch ends are firmly connected by the bridge deck so that the arches can’t spread under load.

The complete *wsp* presentation can be found on the town website, at <https://www.northfieldma.gov/home/news/schell-bridge-project-results-march-22-info-meeting>. *massDOT* and *wsp* solicit addition community input. **Please** send your comments to judywagner37@gmail.com.

Replacement Option 1 – Conventional Steel Truss



Replacement Option 2 – Tunable Tied Steel Arch



Replacement Option 3 – Tied Steel Arch

