

BNSF Railway Bridge over Missouri River at Bismarck-Mandan, ND Frequently Asked Questions on Alternatives

Q. What alternatives did BNSF consider and why were they limited to these alternatives?

A. Federal regulations require the permit applicant to evaluate reasonable alternatives that are practical and feasible from a technical and economic standpoint using good sense. As the permit applicant, BNSF has evaluated four alternatives for impacts on the environment and public. In addition to considering cost, schedule and future rail capacity expansion. (Slides 4, 37)

Q. Why doesn't BNSF build to the south of the existing bridge in Bismarck?

A. BNSF wants to limit impact to the nearby residences, which are all located to the south of the existing bridge.

Q. Why does BNSF prefer removing the current bridge?

A. After considering the criteria for building a new bridge, the alternative BNSF chose was to build a bridge on its property and then remove the existing bridge. This minimizes impact to property outside of BNSF's right of way, meets the no rise in the river requirement and reduces schedule and cost. (Slide 37)

Q. If BNSF didn't plan to add another track in the future, could a new bridge for a single track be built on BNSF property and the current bridge remain in place?

A. BNSF wants to construct a bridge to be in place for another 100+ years and to prepare for adding more capacity for rail traffic in the future. To do that, it plans for building two tracks now to reduce the impact on the environment and neighboring communities by constructing piers that can accommodate two tracks instead of constructing a second pier in the future. (Slide 37)

Q. Why can't BNSF build a new bridge farther away so the existing bridge can remain?

A. BNSF considered building a new bridge north while leaving the current bridge in place. In Concepts 1 and 2, new bridge piers would be aligned with existing piers. The closest distance for safely building new bridge piers is 10 feet from the existing piers. Allowing for the ice breakers on the north side of the old piers and the 10-foot minimum, the new bridge would be built 92.5 feet north. In both concepts, this requires construction outside of BNSF property, impacts Bismarck's water reservoir, replacement of another rail bridge over I-194 to the west of the project, and increases cost and schedule. (Slides 6-10, 18-20)

In Concept 3, BNSF looked at constructing a new bridge closer to the existing bridge at 42.5 feet upstream. To account for the footprint and ice breakers on the current piers, the new piers would be offset from the old. This concept also requires construction off BNSF property, impacts to Bismarck water reservoir, possible replacement of a separate rail bridge over I-194, and increases cost and schedule of the project. (Slides 28-29)

Q. Is the FEMA requirement for causing no rise in the river elevation being used as justification for why BNSF wants to take down the bridge? The rise is so minimal, can't there be an exception?

A. BNSF has to follow the federal regulation for not creating a rise in the river elevation. Using FEMA models, BNSF could not build its preferred design and meet the requirement without removing the current bridge. (Slide 37)

Q. To meet the FEMA no-rise in water elevation requirement, why doesn't BNSF leave the bridge and build the new bridge piers aligned with the existing bridge by constructing the 400-ft spans proposed in Concept 2?

A. Building 400-ft truss spans would allow for aligning the new bridge piers with the old and may result in no rise in water elevation, but it would require building off BNSF property, significant impacts to Bismarck's water reservoir, and substantial increases to the project cost and timeline. It also would require falsework in the river while the truss spans are constructed, which increases flooding concerns. (Slides 23-24)

Q. What are the property impacts if the new bridge is constructed farther north so the current bridge can stay in place?

A. Building a new bridge 92.5 feet north (from center of current bridge to center of new bridge) would require purchasing property from the city of Bismarck (on the east side) and significant excavation of the hillside supporting Bismarck water reservoirs. That excavation raises concerns for impact to the city's reservoir infrastructure, as well as to the stability of the eastern most bridge pier. The current pier has been impacted by the current slope, which is less steep than what would be needed to construct the new bridge farther north. To the west, property from the Missouri River Natural Area would need to be acquired from the ND Department of Transportation. That land has restrictions on development making it likely unattainable for this project. Staying off the Missouri River Natural Area would then require a costly retaining wall. (Slides 11-16)

Q. Why do 400-ft truss spans work at Sibley, MO where BNSF has old and new piers aligned, but not in Bismarck?

A. Unlike in Bismarck, in Sibley, BNSF's new construction is downstream from the existing bridge and isn't limited by an ice breakers on the upstream side. Additionally, the three truss spans are entirely over water in the wider, deeper section of the river, so no falsework is required during construction and instead the spans can be floated in by barge and tug boat. Falsework allows construction of the truss spans in place and it temporarily increases flooding concerns. (slides 23-25)

Q. Why does any alternative, but the one BNSF prefers, cost so much more?

A. Building farther north and staying out of the nature preserve on the west side would require constructing a high retaining wall, and to align with the railroad track west of the bridge BNSF would need to replace another rail bridge west of this project over I-194. Costs are increased further if 400-foot truss spans are constructed because they are more expensive and would require redesign of the project. (Slides 14-16, 37)