

Misc. Bridge Preservation Activities

Section A. Eligibility and Federal Requirements – These items address whether FHWA will compensate NCDOT for these activities.

1. Is the bridge candidate on/over the Interstate System?
The bridge must be on or over the interstate.
2. Is the proposed activity for the bridge candidate part of another program? (TIP, etc.)
A Federal requirement is the bridge cannot be programmed elsewhere. Avoid “like activities.” For example, a bridge programmed for a deck replacement would not be eligible for an overlay, but painting steel beam ends could be an appropriate activity.
Verify with the STIP:
<http://www.ncdot.gov/planning/development/TIP/TIP/>
3. Is ASR present in structural members?
If ASR (Alkaline Silica Reactivity) is present in structural members (beams, caps, columns) the bridge should be programmed for replacement not preservation.
Review the Bridge Inspection Report notes and photos.
4. Is bridge coded structurally deficient or functionally obsolete?
Structurally deficient or functionally obsolete bridges with a sufficiency rating below 50 are likely to be programmed for replacement in the not too distant future.
Review the Bridge Inspection Report.

Section B. General Requirements – These items address program needs, and considers potential impacts of not preserving structures.

1. Is bridge candidate one of a planned corridor of bridges?
Preference is for projects that are part of an overall preservation strategy by coordinating work on multiple structures in a corridor. A corridor of painting projects or joint replacement projects is preferred over bridges in spot locations.
2. Number of verified citizen/ city/ county complaints.
Verified (written) complaints are located in the Local Bridge File or Internal Division Files.
3. Traffic control as % of project cost.
In order to maximize preservation work accomplished, preference is given to projects with lesser traffic control costs.

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4. Stream sensitivity issues.
The goal is keeping bridges in service longer to minimize environmental impacts and potentially much longer and more expensive replacements.
Major stream impacts for construction – major
Minor stream impacts for construction – minor
Grade crossing impacts for construction – none

5. Improvements needed to detour as % of project cost.
Preference is to minimize amount of improvement needed on detour route.
Assume greater than 10% for offsite detour onto secondary road.
Assume less than 10% for offsite detour onto primary route.
0% if known no improvements needed.

6. Detour length.
Preference is to preserve bridges that would result in longer detour routes should replacement be necessary.
Review the Bridge Map.

7. Estimated Remaining Life Extension (after preservation activity).
The life extension is the anticipated improvement to the remaining life of the component, measured in years.

Section C. Deck Washing – Removing salt prevents deck deterioration from chloride seepage and improves deck drainage and safety.

1. 3 or more granular salt applications per year.
Preference is given to decks that receive multiple granular salt applications per year.

2. Debris accumulation.
Preference is given to decks with greater debris accumulation.

3. Closed Deck Drain System.
Preference is given to decks with closed drainage systems. Avoid clogging drainage system.

Section D. Scour Countermeasures – addresses erosion problems that undermines the structure.

1. Active erosion at substructure unit.
Preference is given to structures with active erosion in substructure unit.

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2. Scour countermeasure required by scour evaluation.
Preference is given to structures with countermeasures required by scour evaluation.
3. Bank erosion above or below bridge.
Preference is given to preventive countermeasures that controls scour advancement.

Section E. Crossline Pipes (54" or greater) – Lining or repairing increases pipe life and reduces costly replacements.

1. Repairing headwalls - Preference is to do headwall repairs in conjunction with other pipe preservation activities.
2. Adding liner - add liner if pipe is rusted or pinholed yet structurally sound and with minimal pipe deformity.
3. Repair leaking pipe joints (water or fill material).
Preference is given to pipe joints leaking fill material.