

BRIDGE REPAIR COST ESTIMATE WORKSHEET
- KEY -

Unit Cost Assumptions
(Revised 01/29/09)

NEW BRIDGE

Multiple spans, Concrete - add road approach, demolition, & traffic control.

Multiple spans, Steel - add road approach, demolition, & traffic control.

Single span (or multi span over water), Concrete - add road approach, demolition, & traffic control.

Single span (or multi span over water), Steel - add road approach, demolition, & traffic control.

Pedestrian Bridge - includes demolition & approach ramps, add traffic control.

Other

NEW SUPERSTRUCTURE - includes removal of old superstructure, joints, new railing.

Add road approach and traffic control.

NOTE: Assume replace-in-kind unless specific recommendation from Design.

Concrete

Steel

Over Water - additional cost to the steel or concrete superstructure replacement if over water.

Other

WIDENING - Per square area of widened portion of deck.

Includes cost of widening substructure units, *must add additional cost of widening road approach.*

Other

NEW DECK - includes removal of old deck, joints, new railing. Add road approach & traffic control.

Other

DEMOLITION

Entire bridge, grade separation

Entire bridge, over water

Other

SUPERSTRUCTURE REPAIR

Concrete Deck Patch - includes hand chipping.

HMA Cap (no membrane) - add bridge railing if required.

HMA Overlay with WP membrane - add bridge railing if required.

Removal of Concrete Wearing Course (latex) or Epoxy Overlay - add this to overlay costs to remove existing latex or epoxy wearing course.

Removal of HMA Overlay - add this to overlay costs to remove existing HMA overlay.

Epoxy Overlay - does not include joint replacement.

Shallow Overlay* - includes joint replacement & hydrodemolition; add bridge railing if req'd.

Deep Overlay* - includes joint replacement & hydrodemolition; add bridge railing if req'd.

*[Add "Removal of Concrete Wearing Course" to remove existing latex ovly.]

PCI Beam End Repair - per beam end, \$3,000 is "average".

\$2,000 for simple repairs (includes cathodic protection and concrete patching),

\$4,000 for extensive repairs (includes new bearing assembly and temporary supports).

Repair Structural Steel - per repair, includes temporary supports, add painting.

\$2,400 bolted, \$6,200 welded. Use \$5,000 if unknown.

High Load Hit Repair (PCI beam) - does not include temporary support, if needed.

Paint Structural Steel - includes clean and coat.

Partial Painting - includes clean and coat.

Pin & Hanger replacement - includes temporary supports, does not include painting.

Other

SUBSTRUCTURE REPAIR

Pier repair* - (measured x 2) - includes hand chipping, add temporary supports.

Pier repair over water* - (measured x 2) - includes hand chipping, add temporary supports.

Pier replacement - includes removal, piles, excavation, backfill, & cofferdam or sheet piling.

Abutment repair* - (measured x 2) - includes hand chipping, add temporary supports.

*assumes depth of repair is 5"-6".

Temporary Supports for Substructure Repair

Slope Protection repairs - includes demolition / removal.

Other

MISCELLANEOUS

Expansion Joints and Construction Joints - includes joint removal.

(combined per Design - construction joint usually replaced with exp. joint of some kind).

Bridge Railing, remove and replace – average.

If Type 4, reduce by \$30. If aesthetic parapet railing, increase by \$40.

Thrie Beam Railing retrofit

Deck Drain Extensions – only two in WIRS. Cost may vary.

Scour Countermeasures

Other

ROAD WORK

Approach Pavement, 9½" RC, 40' ea. end - min. approach work to tie in to new bridge deck, includes removal of existing pavement.

Approach Curb & Gutter - includes C&G removal.

Guardrail Anchorage to Bridge (<40') - includes GR removal.

Guardrail, Type B or T - includes GR removal.

for guardrail beyond GR Anchorage or to replace existing type B or T. Not more than \$200'.

Guardrail Ending - needed unless new GR is tied into existing GR.

Roadway Approach work - when needed beyond 40', eg. transition to adjust crown or super, or add'l width needed when widening bridge or add'l length needed when raising grade.

Utilities

Other

TRAFFIC CONTROL - Unit costs to be determined by Region or TSC Traffic and Safety.

Note: If bridge is within a road project, traffic control will in most cases be covered by the road project. If this is the case, please make note of it on the estimate form.

Part Width Construction

Crossovers – very rough estimate.

Temporary Traffic Signals - price listed is bumped up from that provided by Lansing T&S in 2004.

RR Flagging

Detour

Other

CONTINGENCY - (10% - 20%) use higher contingency for small projects.

MOBILIZATION – Estimate at 5% but put "10% max." in pay item description, per Design Update 2009-1.

INFLATION - use 5% per year, starting with year 2009, per Planning (5% 2009, 10% 2010, 15% 2011, etc.).