

Portsmouth 27690 – Rehabilitation of Bridge 192-106
US 1 Bypass over Hodgson Brook

Public Informational Meeting
Portsmouth City Hall, 7:00 pm, April 14, 2016
(Plan File 3-10-4-13 & 2-14-2-2)

Existing bridge

1. Constructed in 1940; 5 bay box culvert Modified in 1966
2. Each bay is 8' wide x 6 ½' high
3. Bridge length (longitudinal) is 45'-0" (10"+8'+10"+8'+10"+8'+10"+8'+10"+8'+10")
4. Bridge width curb to curb 72'-0"; 76' Out to Out
5. Four lanes plus a turn lane & two shoulders
6. Profile, 1% slope down from circle
7. Deck slab thickness is 10" (top & bot)
8. Posted speed 35 mph
9. Wings are 17'- 4 5/8" long

Inspection Report

1. Added to Red List in 2011 and is currently #32 on 2016 Bridge Priority list
2. Federal sufficiency rating 47%
3. Rating is "4=Poor"
4. AADT 40,000 vehicles with 8 trucks (2012)
5. Detour length is 4-1/4 miles (7 minutes)
6. Extensive deterioration of concrete and steel reinforcing primarily along the bottom edge of all box culvert 'piers'
7. Intermittent deterioration of concrete and steel reinforcement on the underside of the ceiling slabs. With the heaviest occurring on the last 3' of the down-stream end.

Design Considerations

1. Many utilities
2. Close proximity to multiple accesses (roadways and driveways)
3. Brook crossing
4. Concrete box culvert (non-natural stream bottom)
5. Aquatic passage improvements
6. Detour length
7. Heavy commuter traffic along with tourist area
8. High traffic volumes

Design Options

1. Do nothing ⇒ Deterioration will continue and needs to be addressed
2. Replacement ⇒ Delays/Construction Time, Cost, Permits, ROW, traffic
3. Rehabilitation ⇒ concrete patch & repair

Traffic Design Options

1. Replacement Option
 - Phased Construction: 120 day construction time
 - Bridge Closure: 30 day construction time
2. Rehabilitation Option
 - Limited traffic interruptions

Misc.

ROW limits are currently under research (easements likely will be required)

Utilities will need to be moved prior to construction if replacement option is used

Historic Issues

Environmental issues

- Hodgson Brook aquatic passage

- Potential for Hazardous Materials (needs to be reviewed)

- Invasive species (present)

- Wetlands



Elevation Looking Up-Stream

