# HistoricBridges.org - National Bridge Inventory Data Sheet

**2013 Inventory**

The National Bridge Inventory contains data submitted by state transportion departments to the Federal Highway Administration in coded format.
Form Interface Design: www.historicbridges.org. Data Conversion Assistance By www.bridgehunter.com. None of the involved parties make any guarantee of accuracy.

## Basic Information

| | | | | | |
|---|---|---|---|---|---|
| Washington [53] | Spokane County [063] | Spokane [67000] | 00.80 N OF I-90 | 47-39-45.65 = 47.662681 | 117-25-15.72 = -117.421033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 85293000000000 | Highway agency district | 6 | Owner | City or Municipal Highway Agency [04] | Maintenance responsibility | Local Park, Forest, or Reservation Agency | |
| Route | 812 | | HOWARD STREET | Toll | On free road [3] | Features intersected | MIDDLE CHANNEL SPOKANE R |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design - main | Steel [3] | Design - approach | Concrete [1] | Kilometerpoint | 111 km = 68.8 mi | | |
| 1 | Truss - Thru [10] | 2 | Tee beam [04] | Year built | 1916 | Year reconstructed | 1963 |
| | | | | Skew angle | 0 | Structure Flared | |
| | | | | Historical significance | Bridge is not eligible for the NRHP. [5] | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total length | 73.8 m = 242.1 ft | Length of maximum span | 59.1 m = 193.9 ft | Deck width, out-to-out | 18 m = 59.1 ft | Bridge roadway width, curb-to-curb | 12.2 m = 40.0 ft |
| Inventory Route, Total Horizontal Clearance | 12.7 m = 41.7 ft | Curb or sidewalk width - left | 2.9 m = 9.5 ft | Curb or sidewalk width - right | 2.9 m = 9.5 ft | | |

| | |
|---|---|
| Deck structure type | Concrete Precast Panels [2] |
| Type of wearing surface | Bituminous [6] |
| Deck protection | |
| Type of membrane/wearing surface | |

## Weight Limits

| | | | | | |
|---|---|---|---|---|---|
| Bypass, detour length | Method to determine inventory rating | Allowable Stress(AS) [2] | Inventory rating | 19.8 metric ton = 21.8 tons | |
| 0.2 km = 0.1 mi | Method to determine operating rating | Allowable Stress(AS) [2] | Operating rating | 32.4 metric ton = 35.6 tons | |
| | Bridge posting | 10.0 - 19.9 % below [3] | Design Load | M 13.5 / H 15 [2] | |

## Functional Details

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Average Daily Traffic | 114 | Average daily truck traffi | 1 % | Year | 2013 | Future average daily traffic | 90 |
| Year | 2034 | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Road classification | Local (Urban) [19] | Lanes on structure | 2 | Approach roadway width | 14.6 m = 47.9 ft |
| Type of service on bridge | Highway-pedestrian [5] | Direction of traffic | 2 - way traffic [2] | Bridge median | |
| Parallel structure designation | No parallel structure exists. [N] | | | | |
| Type of service under bridge | Waterway [5] | Lanes under structure | 0 | Navigation control | |
| Navigation vertical clearanc | 0 = N/A | Navigation horizontal clearance | 0 = N/A | | |
| Minimum navigation vertical clearance, vertical lift bridge | | Minimum vertical clearance over bridge roadway | 4.78 m = 15.7 ft | | |
| Minimum lateral underclearance reference feature | Feature not a highway or railroad [N] | | | | |
| Minimum lateral underclearance on right | 0 = N/A | Minimum lateral underclearance on left | 0 = N/A | | |
| Minimum Vertical Underclearance | 0 = N/A | Minimum vertical underclearance reference feature | Feature not a highway or railroad [N] | | |
| Appraisal ratings - underclearances | N/A [N] | | | | |

## Repair and Replacement Plans

Type of work to be performed

Replacement of bridge or other structure because of substandard load carrying capacity or substantial bridge roadway geometry. [31]

| | | | |
|---|---|---|---|
| Work done by | Work to be done by contract [1] | | |
| Bridge improvement cost | 91000 | Roadway improvement cost | 9000 |
| Length of structure improvement | 0 m = 0.0 ft | Total project cost | 137000 |
| Year of improvement cost estimate | 2013 | | |
| Border bridge - state | | Border bridge - percent responsibility of other state | |
| Border bridge - structure number | | | |

## Inspection and Sufficiency

| | | | |
|---|---|---|---|
| Structure status | Posted for load [P] | Appraisal ratings - structural | Somewhat better than minimum adequacy to tolerate being left in place as is [5] |
| Condition ratings - superstructure | Satisfactory [6] | Appraisal ratings - roadway alignment | Equal to present desirable criteria [8] |
| Condition ratings - substructure | Satisfactory [6] | Appraisal ratings - deck geometry | Better than present minimum criteria [7] |
| Condition ratings - deck | Fair [5] | | |

| | |
|---|---|
| Scour | Bridge foundations determined to be stable for the assessed or calculated scour condition. [8] |
| Channel and channel protection | Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition. [8] |

| | | | |
|---|---|---|---|
| Appraisal ratings - water adequacy | Equal to present desirable criteria [8] | Status evaluation | |
| Pier or abutment protection | | Sufficiency rating | 70.4 |

| | |
|---|---|
| Culverts | Not applicable. Used if structure is not a culvert. [N] |
| Traffic safety features - railings | |
| Traffic safety features - transitions | |
| Traffic safety features - approach guardrail | |
| Traffic safety features - approach guardrail ends | |

| | | | | |
|---|---|---|---|---|
| Inspection date | June 2013 [0613] | Designated inspection frequency | 24 | Months |

| | | | |
|---|---|---|---|
| Underwater inspection | Not needed [N] | Underwater inspection date | |
| Fracture critical inspection | Every two years [Y24] | Fracture critical inspection date | April 2013 [0413] |
| Other special inspection | Not needed [N] | Other special inspection date | |

# BRIDGE INSPECTION REPORT

Ver Date: 08/07/2013 Agency: SPOKANE

Status: Released Printed On: 09/30/20 Program Mgr: Roman G. Peralta



**Bridge No.** 375000812 **Structure Type**

**Bridge Name** HOWARD ST MIDDLE CHANNEL **Route** 00812 **Location** 00.80 N OF I-90

**Structure ID** 08529300 **MilePost** 0.69 **Intersecting** MIDDLE CHANNEL SPOKANE R

Inspector's Signature JEM IDent# G0608 Co-Inspector's Signature LAM

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | Structural Adqcy | (657) | N | | Pier/Abut/Protect | (679) | 1916 | Year Built | (332) | |
| 7 | | Deck Geometry | (658) | 8 | | Scour | (680) | 1963 | Year Rebuilt | (336) | |
| 9 | | Underclearance | (659) | 4 | | Retaining Walls | (682) | 36 | | Oper Rating | (551) |
| 3 | | Operating Level | (660) | 9 | | Pier Protection | (683) | 22 | | Inv Rating | (554) |
| 8 | | Alignment Adqcy | (661) | 0 | | Bridge Rails | (684) | P | | Open Close | (293) |
| 8 | | WaterwayAdqcy | (662) | 0 | | Transition | (685) | 1508 | | Vert Over Deck | (360) |
| 6 | 5 | Deck Overall | (663) | 0 | | Guardrails | (686) | 0000 | | Vert Under | (374) |
| 5 | | Drains Condition | (664) | 0 | | Terminals | (687) | N | | Vert Und Code | (378) |
| 6 | | Superstructure | (671) | | | Revise Rating | (688) | 0.00 | | Asphalt Depth | |
| 6 | | Number Utilities | (675) | | | Photos Flag | (691) | | | Speed Limit | |
| 6 | | Substructure | (676) | | | Soundings Flag | (693) | | | | |
| 8 | | Chan/Protection | (677) | | | Measure Clearance | (694) | | | | |
| 9 | | Culvert | (678) | | | | | | | | |

**Inspections Performed**

| IT | NT | HRS | Date | Rep Type |
|---|---|---|---|---|
| **Y** | **24** | **11.5** | **06/18/2013** | **Routine** |
| **Y** | **24** | **7.0** | **04/18/2013** | **Fract Crit** |
| | | | | Underwater |
| | | | | Special |
| | | | | Interim |
| | | | | Equipment |
| | | | | Damage |
| | | | | Safety |
| | | | | Short Span |

Total: 18.5

Suff Rating: 71.45 70.44

## BMS Elements

| Element | Element Description | Total | Units | State 1 | State 2 | State 3 | State 4 |
|---|---|---|---|---|---|---|---|
| 115 | Prestressed Concrete Girder | 2178 | LF | 1903 | 275 | 0 | 0 |
| 126 | Steel Thru Truss | 388 | LF | 300 | 88 | 0 | 0 |
| 152 | Steel Floor Beam | 572 | LF | 342 | 220 | 10 | 0 |
| 162 | Steel Pin | 36 | EA | 23 | 13 | 0 | 0 |
| 205 | Concrete Pile/Column | 4 | EA | 0 | 4 | 0 | 0 |
| 215 | Concrete Abutment | 120 | LF | 0 | 110 | 10 | 0 |
| 310 | Elastomeric Bearing | 98 | EA | 0 | 98 | 0 | 0 |
| 311 | Moveable Bearing (roller, sliding, etc) | 22 | EA | 0 | 22 | 0 | 0 |
| 330 | Metal Bridge Railing | 484 | LF | 484 | 0 | 0 | 0 |
| 357 | Pack Rust | 32 | EA | 11 | 21 | 0 | 0 |
| 800 | Asphaltic Concrete (AC) Overlay | 9680 | SF | 8840 | 800 | 40 | 0 |

## Notes

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|---|---|
| 0 | The bridge is oriented from the south to the north. The bridge is posted. Fencing has been installed closing off the sidewalks on both sides of the bridge. The temperature during the inspection ranged from 65 degrees to 90 degrees. |
| 115 | The girders supporting the sidewalks are breaking away at the ends, losing substantial portions of their bearing areas. For this reason, the sidewalks have been closed to the public. Some of the girders in the main span have hairline cracks in the webs above the center bearings. |
| 126 | There is pack rust on the lower truss members, particularly in the joints between the cross beams and the vertical truss members causing distortions of up to 1.125-inch in the affected plates. The cover plates on vertical members L13-U6, L24-U12, L32-U23 and L34-U25 are all missing the same four rivets. All of the truss members have some areas of peeling paint and light rust. There are several slightly bent lattice bars and cover plates scattered throughout the truss. |
| 152 | The cross beams under the expansion joints are rusting on both the top and bottom flanges and along the bottom of the web plates. There is pack rust in the joints between the cross beams and the vertical truss members ranging in thickness from 0.25” to 1.125” and in length from 6” to 52”. |
| 162 | 162 Steel Pins are UT inspected on an alternating frequency.<br><br>In 2013, fourteen pins were ultrasonically tested.<br>Previous possible indications noted in Pin U22 could not be found. No previous saved pin shot was available showing the possible indications to allow further evaluation at this point. Pin was kept in CS2 until follow on inspections can confirm the indication or evaluate it as non relevant.<br><br>Pin L32 was recorded as having a questionable indication in 2011 that were somewhat coincident within a 2" length centered around the midpoint of the pin. Indications are distinct, but not sharp, spikes between 20% and 29% with the back shoulder shown at 98%. The location of the indications is within a theoretical zero shear force region on the pins. Based on the degree of corrosion present around the ends of the many of the pins within the eye-bars, the indications are suspect as being related to surface corrosion within the pin sleeve. Defect is not determined to affect the capacity of the structure and the pin was placed in CS2 for more frequent monitoring.<br>Indications were identified as having no significant change in 2013.<br><br>The following pins were identified at Visual Condition State 2 for noted pack rust in and around the eye bar members and cover plates:<br>L4, M8, L13, M14, M15, M16, L24, L28, L30, L32 and L34<br>See photos #3, #4, #5 and #6.<br><br>For additional and specific information, see "Visual Fracture Critical Report", "Pin Summary", Pin Inspection Schedule" and "UT Report" attached to the files tab. |
| 205 | The columns on the north end have some light, leaching cracks. |

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**Bridge Name** HOWARD ST MIDDLE CHANNEL **Route** 00812 **Location** 00.80 N OF I-90

**Structure ID** 08529300 **MilePost** 0.69 **Intersecting** MIDDLE CHANNEL SPOKANE R

| | |
|---|---|
| 215 | The abutments consist of concrete sills poured on top of the basalt on the south end and native ground covered in large pieces of broken basalt placed so as to form a wall on the north end. There are two pipe ends protruding through the north abutment. The concrete sill has large cracks at each of these pipes. |
| 310 | The bearing pads are protruding out from under the girders in a few places, but they remain functional. |
| 311 | The roller bearings on the north end are dirty and leaking an oily substance. |
| 330 | The railing has isolated areas of light rust. |
| 357 | There is pack rust in the joints where the cross beams attach to the vertical truss members varying in thickness from 0.25" and 1.25". There is pack rust varying in thickness from 0.125" and 0.25" in the joints between some of the plates around Pin L28. There is pack rust distorting the edges of the cover plates at Joints L13, L24, L34 and L32. There is some pack rust developing on the top flanges of the cross beams located under the expansion joints |
| 674 | The estimated weight of steel in the bridge is 150 tons. The paint on the bridge is failing at most joints and in highly exposed areas. |
| 800 | The asphalt surfacing is heavily cracked and has several large patches. The larger cracks have been sealed with tar. |

## Repairs

| Repair No | Pr | R | Repair Description | Noted | Maint | Verified |
|---|---|---|---|---|---|---|

## Inspections Performed and Resources Required

| Report Type | Date | IT | Frq | Hrs | Insp | CertNo | Coinsp | Note |
|---|---|---|---|---|---|---|---|---|
| Routine | 06/18/13 | | 24 | 11.5 | JEM | G0608 | LAM | Load rating will not allow any Ubit inspections. Small bucket truck will be used for upper truss inspection and lower truss will be a climbing inspection. A cable lifeline has been installed on both lower sides of the bridge. |

| Resources | Use | Hour | Min | Req | Max | Notes |
|---|---|---|---|---|---|---|
| Bucket | BK | 4.00 | | | | smaller bucket truck to 20'lift |

| Report Type | Date | IT | Frq | Hrs | Insp | CertNo | Coinsp | Note |
|---|---|---|---|---|---|---|---|---|
| Fracture Critical | 04/18/13 | | 24 | 7.0 | JEM | G0608 | GAS | UT inspection 4-18-13 |

| Resources | Use | Hour | Min | Req | Max | Notes |
|---|---|---|---|---|---|---|
| Bucket | BK | 3.00 | | | | |