AASHTO SUBCOMMITTEE ON BRIDGES & STRUCTURES  
ANNUAL STATE BRIDGE ENGINEERS’ SURVEY (2016)  
45 States Responded

MANAGEMENT

Accelerated Bridge Construction

1. What ABC design and construction guidance/standards are used in your state? (check all that apply)
   6 (13.33%) ABC Manual developed by state
   41 (91.11%) Existing AASHTO, FHWA, Industry guidance
   18 (40.00 %) State Design Manual/documents no different than for standard construction
   3 (6.67%) Other

2. Who determines if/what innovation is incorporated into bridge projects, such as bridge slides, SPMTs, prefabricated bridge elements, etc. in traditional Design-bid-build project delivery?"
   25 (55.56%) Bridge owners
   3 (6.67%) Bridge designers
   0 (0%) Contractors
   17 (37.78%) Collaborative effort

3. What is the primary method your state uses in longitudinal joints of precast deck slabs on ABC Projects? (check all that apply)
   10 (22.73%) Conventional grout
   3 (6.82%) Conventional grout with post-tensioning
   7 (15.91%) Rapid set grout
   3 (6.82%) Rapid set grout with post-tensioning
   15 (34.09%) UHPC
   11 (25%) Depends on project
   12 (27.27%) Precast deck slabs not being used

4. What is the primary method your state uses in transverse joints of precast deck slabs on ABC Projects? (check all that apply)
   8 (18.18%) Conventional grout
   10 (22.73%) Conventional grout with post-tensioning
   6 (13.64%) Rapid set grout
   4 (9.09%) Rapid set grout with post-tensioning
   12 (27.27%) UHPC
   9 (20.45%) Depends on project
   14 (31.82) Precast deck slabs not being used
Alternative Contracting

5 Which of the following alternative contracting methods has your state used (check all that apply)?
   40 (88.89%) Design-Build
   18 (40%) Construction Manager/General Contractor (CM/GC) or Early-Contractor-Involvement
   12 (31.11%) P3
   16 (35.56%) Low-bid/Best Value
   9 (20%) Fixed price
   5 (11.11%) None

6 If you did not answer “none” to the above question, please indicate alternative contracting methods have led to (check all that apply):
   8 (21.51%) Cost-savings, major
   12 (30.77%) Cost-savings, minor
   22 (56.41%) Time-savings, major
   22 (56.41%) Time-savings, minor
   22 (56.41%) Innovations that could be used on other projects
   17 (43.59) Quality no different than from conventional contracting
   14 (35.9%) Quality below that from conventional contracting

7 What tools has your State developed (check all that apply)?
   23 (52.27%) Manual or miscellaneous guidance on design-build
   9 (20.45%) Manual or miscellaneous guidance on CM/GC
   3 (6.62%) Manual or miscellaneous guidance on P-3
   26 (59.09%) RFP template
   22 (50 %) RFQ template
   12 (27.27%) None of the above

8 Has your state required technical proposals that were:
   25 (60.98%) Prescriptive in nature, detailing exactly what was or was not acceptable?
   9 (21.95%) More performance-based, with minimal requirements, allowing the Design Build team to use other outside agency standards and specifications?
   7 (17.07%) Other

9 Has your state administered an alternative contract that has bundled bridges?
   21 (46.67%) Yes
   24 (53.33%) No
10 If you answered “yes” to the above question, what issues has your state encountered?
9 (52.94%) ROW Issues
9 (52.94) Utility issues
11 (64.71%) Subsurface obstruction/unforeseen subsurface conditions issues
6 (35.29%) Managing a contractor with multiple physical construction sites
2 (11.76%) Managing the documentation of the ECI design process on multiple bridges in one contract
4 (23.53%) Not being able to reconcile prices on some of the individual bridges

Records Management

11 What types of bridge files are stored in your state? (check all that apply)
44 (97.78%) Inspection reports
43 (95.56%) Structure Plans
33 (73.33%) Structure Specifications
41 (91.11%) Shop Drawings
43 (85.56%) As-Built Plans
27 (60%) Design/Analysis documents and calculations in perpetuity
10 (22.22%) Design/Analysis documents and calculations, but for under 10 years
8 (17.78%) Design/Analysis documents and calculations, but for more than 10 years
44 (97.78%) Load Rating calculations
39 (86.67%) Construction documents such as foundation reports, permits, etc.

12 Does your state have staff dedicated to storage of bridge files?
25 (55.56%) Yes
20 (44.44%) No

13 Does your state store all your bridge records from Design, Construction and Maintenance (plans, inspections, analyses, shop drawings, etc.) electronically in system/software package?
28 (62.22%) Yes
17 (37.78%) No

14 If you answered “yes” to the above questions, what system/software packages is your state using?
6 (1935%) Custom System – (DOT Internal System)
0 (0%) SharePoint
9 (29.03%) Bentley – Project Wise
5 (16.13%) InspectTech
0 (0%) eBuilder
0 (0%) AMX Solutions
1 (3.23%) Dayton
10 (32.26%) Other
Project Management

15  How does your state use BIM/BrIM for projects (check all that apply)?
   4 (8.89%) For major projects
   3 (6.67%) For typical highway projects
   10 (22.22%) For selected projects to pilot its use
   32 (7.11%) Not used

16  Which projects require a demolition plan to be submitted for bridge removal in your state? (check all that apply)
   20 (50%) All bridge projects
   1 (2.5%) Culverts
   4 (10%) Bridges of a specific span length
   14 (40%) Continuous post-tensioned and/or complex bridges
   15 (37.5%) Bridges over highways
   6 (15%) Fracture critical bridges

17  Which bridge removal projects require a PE seal on demolition plans in your state? (check all that apply)
   11 (32.35%) All bridge projects
   0 (0%) Culverts
   4 (11.76%) Bridges of a specific span length
   16 (47.06%) Continuous post-tensioned and/or complex bridges
   13 (38.24%) Bridges over highways
   6 (17.65%) Fracture critical structures

18  If demolition plans must be submitted does your state review, accept or approve the plans?
   16 (38.10%) Review Only
   15 (25.71%) Accept
   11 (26.19%) Approve

19  Does your state use agency force account procedures to perform direct work by DOT forces for maintenance and/or preservation work (check all that apply)?
   16 (36.36%) Yes; for bridges
   15 (34.09%) Yes; for pavements
   8 (18.18%) Only in emergencies
   20 (45.45%) Not used
Railroad Projects

20  For bridges that carry a roadway over a railroad where the railroad is the owner and your state is responsible for maintenance/inspection, does your state require the railroad to cover the cost of insurance, flagging, and Right of Entry (ROE) for the DOT to inspect the bridge?
   4 (10%) Yes
   36 (90%) No

21  Who pays for railroad flagging when replacing or repairing a railroad owned structure carrying a roadway with DOT funding?
   29 (78.38%) DOT
   4  (10.81%) Railroad
   2 (5.41%) Joint
   2 (5.41%) Other

DESIGN
General

22  Does your state have structures specifically for animal overcrossings?
   12 (26.67%) Yes
   33 (73.33%) No

23  If you answered “yes” to Question 22, what type of structure have your state used?
    (check all that apply)
   5 (41.67%) Concrete girders and deck
   6 (50%) Concrete arches
   9 (75%) Concrete boxes
   4 (33.33%) Other

24  If you answered “yes” to Question 22, what design specifications or criteria have you used? (check all that apply)
   12 (110%) AASHTO LRFD Bridge Design Specifications
   2 (16.67%) Technical Manual for Design and Construction of Road Tunnels
   (Publication FHWA-NHI-10-034)
   1 (8.33%) Other

25  If you answered “yes” to Question 22, what type of barrier have you used along the sides of the overcrossings to prevent animals from falling off the structure? (check all that apply)
   2 (16.67%) Concrete noise barrier
   7 (58.33%) Chain link fence
   3 (25%) Welded wire fence
   4 (33.33%) Other
Does your state have a lesser standard/criteria of design for bridges on non-state-owned, low volume, or rural structures in terms of:

Hydraulic design events?
- Yes: 21 (46.67%)
- No: 24 (53.33%)

HL93 Live loads?
- Yes: 4 (8.89%)
- No: 41 (91.11%)

Permit Design Vehicle Live loads?
- Yes: 6 (13.64%)
- No: 38 (86.36%)

Seismic design criteria?
- Yes: 3 (6.82%)
- No: 41 (93.18%)

If you answered “yes” to any of the above, how does your state communicate the lesser standard? (check all that apply)
- Bridge Design Manual: 17 (65.38%)
- Low Volume Roads guide: 6 (23.08%)
- County and local assistance guidance: 5 (19.23%)
- Agreement with FHWA: 3 (11.54%)
- Case-by-case approval: 4 (15.28%)
- Other: 5 (19.23%)

Seismic Design

Does your State allow lap splices in longitudinal reinforcement outside the plastic hinging regions (mid-column) when designing columns using the seismic requirements of the LRFD Bridge Design Specifications?
- Yes: 22 (59.46%)
- Yes, but only mechanical splices are permitted: 4 (10.81%)
- No: 11 (29.73%)

Has your state used seismic isolation bearings in new design and retrofit of bridges?
- Yes, retrofit only: 5 (12.5%)
- Yes, new and retrofit: 12 (30%)
- No: 23 (57.5%)
30 If you answered “yes” to Question 29, what types of isolation bearings are usually used in your state? (check all that apply)
   - 13 (72.22%) Lead-cored elastomeric Bearing
   - 6 (44.44%) Concave Friction Pendulum Bearings
   - 3 (16.67%) Flat plate friction sliding bearings
   - 2 (11.11%) Other

31 If you answered “yes” to Question 29, does your state provide a full design for the specified bearing type or require the contractor to provide a full design for the bearing provided?
   - 1 (5.56%) Yes, full design provided for specified bearing type
   - 1 (61.11%) Yes, contractor is required to provide a full design for the bearing type provided
   - 6 (3.33%) No, design is left up to contractor in all cases

Concrete

32 Does your state require intermediate diaphragms for spread box beam bridges?
   - 16 (43.24%) Yes
   - 21 (56.76%) No

33 If you answered “yes” to the above question, does your state allow steel diaphragms?
   - 13 (76.47%) Yes
   - 4 (23.53%) No

34 Which of the following related to high performance (above 15 KSI) fiber-reinforced concrete/cementitious materials applies to your state (check all that apply)?
   - 5 (11.63%) We are seeking standardized testing protocol
   - 12 (27.91%) Limited application in decks
   - 0 (0%) Wide-spread use in decks
   - 1 (2.33%) Limited applications in girders
   - 1 (2.33%) Limited usage in substructures
   - 29 (67.44%) None of the above

35 For typical beam-slab bridges with cast-in-place decks, which direction does your state place the top steel in the top mat of reinforcement?
   - 38 (84.44%) Transverse
   - 7 (15.56%) Longitudinal

Steel

36 Does your state require shear connectors in the negative moment regions?
   - 39 (86.67%) Yes
   - 6 (13.33%) No
37 If you answered “yes” to the above question, what capacity in the negative moment region does your state use?

21 (56.76%) Full composite section capacity
17 (43.24%) Reduced composite section capacity

38 In the fabrication of steel haunch girders what does your state allow for forming the bottom flange at the haunch? (check all that apply)

25 (65.79%) Mechanical hot bending
19 (50%) Cold bending
10 (26.32%) Upset shrinkage heating
24 (63.16%) Welded joints

Decks

39 What limits does your state place on the WIDTH of bridge decks without open joints?

2 (4.44%) Less than 80’
2 (4.44%) 80’-90’
2 (4.44%) 90’-100’
5 (11.11%) 100’-120’
2 (4.44%) Over 120’
32 (71.11%) No limit

40 Does your state have a ride quality specification for new bridge decks?

27 (61.36%) Yes
17 (38.64%) No

41 If you answered “yes” to the above question, is there something done to restore friction?

21 (75%) Yes
7 (25%) No

42 Does your state apply a wearing surface to a new bridge deck?

6 (13.33%) Yes
17 (37.78%) No
22 (48.89%) Sometimes

43 If you answered “yes” to the above question, what types of overlay are being used? (check all apply)

13 (46.43%) HMA
13 (46.43%) Epoxy
8 (28.57%) Latex or silica fume modified concrete
8 (28.57%) Polyester concrete
2 (7.41%) Other
44 Does your state perform final texturing of concrete bridge?
   43 (95.56%) Yes
   2 (4.44%) No

45 If you answered “yes” to Question 44, when does your state perform final texturing of concrete bridge decks:
   14 (32.56%) At the time of deck placement
   29 (67.44%) After curing is complete with mechanical sawed grooves

46 If you answered “yes” to Question 44, is your texturing in:
   27 (62.79%) Transverse
   16 (37.21%) Longitudinal

47 If you answered “yes” to Question 44, is the direction of texturing chosen for (check all that apply):
   23 (54.76%) Drainage
   18 (42.86%) Noise
   18 (42.86%) Safety/Accident History
   5 (11.90%) Other

48 Does your state require an International Roughness Index (IRI) measure of deck and approach roadway smoothness?
   11 (24.44%) Yes
   34 (75.56%) No

Expansion Joints and Bearings

49 What is your State practice on using jointless bridges i.e. elimination of expansion joints?
   29 (64.44%) Yes, we have explicit policy/requirements
   11 (24.44%) No explicit policy/requirement, but encouraged
   4 (8.89%) No policy/requirement, up to Designer
   1 (2.22%) Discouraged or not permitted due to seismic concerns

50 Does your State require fatigue testing for Modular joint Systems? Is Manufacturer’s fatigue test report available for review?
   13 (33.33%) Yes, the report is always available
   5 (12.82%) Yes, but sometimes, the report is unavailable
   21 (53.85%) Not required

51 Does your state have guidance on allowable rocker bearing tilt?
   4 (9.09%) Yes
   19 (43.18%) No
   21 (47.73%) Rocker bearings have been replaced and are no longer allowed
Foundations

52  When designing uncased concrete shaft foundations, does your state allow all of the plan
dimension of concrete outside the reinforcing cage to be considered in the calculations
of axial and flexural resistance?
   34 (79.07%) Yes
   9 (20.93%) No

53  If you answered “no” to the above question, how much of the concrete cover is neglected?
   0 (0%) ≤ 2 in.
   3 (37.5%) > 2 in.
   5 (62.5%) Specified cover

Barriers and Railings

54  Has your state developed a plan to have your bridge railings compliant to the new
    Manual for Assessing Safety Hardware (MASH)?
    6 (13.33%) Yes
    10 (22.22%) No
    29 (64.44%) In process, not complete

55  How does your state determine the test level for bridge barriers?
    3 (7.14%) 1989 AASHTO Guide Specification for bridge barriers
    12 (28.57%) Based on Design Speed
    0 (0%) Based on AADT
    27 (64.29%) Other

56  What test level (NCHRP 350) does your state use for bridge barriers on high speed (50
    mph or greater) roadway?
    5 (11.36%) TL-3
    35 (79.55%) TL-4
    3 (6.82%) TL-5
    1 (2.27%) Other

57  What test level (MASH) will your state use for bridge barriers on high speed (50 mph or
    greater) roadway?
    4 (8.89%) TL-3
    16 (35.56%) TL-4
    3 (6.67%) TL-5
    0 (0%) Other
    22 (48.89%) Not yet determined
58 What test level (NCHRP 350) does your state use for bridge barriers on low speed (45 mph or lower) roadway?

16 (36.36%) TL-3
19 (43.18%) TL-4
1 (2.27%) TL-5
8 (18.18%) Other

59 What test level (MASH) will your state use for bridge barriers on low speed (45 mph or lower) roadway?

6 (13.33%) TL-3
9 (20%) TL-4
2 (4.44%) TL-5
3 (6.67%) Other
25 (55.56%) Not yet determined

60 Is your state planning to use a pooled fund to help with MASH compliance?

7 (15.56%) Yes – we are currently not in a pooled fund but would like to join one
15 (33.33%) Yes – we are currently a member of a pooled fund
11 (24.44%) Depends on what shapes are tested
12 (26.67%) No

61 Approximately how many standard bridge railings in your state are currently not MASH complaint?

2 (4.44%) 0
12 (26.67%) 1-3
7 (15.556%) 4-6
4 (8.89%) 7-10
3 (6.67%) More than 10
17 (37.78%) Unknown

62 Which of the following best describes your state’s plan (or draft plan) for MASH compliant bridge railing?

8 (17.78%) Get all current state standard railings MASH compliant
6 (13.33%) Adopt MASH compliant railings that are not part of your current state standards.
16 (35.56%) Get some of your current standard railing MASH compliant and adopt some new MASH compliant railings that are not part of your current state standards
15 (33.33%) No plan developed at this time
The AASHTO Guide for the Development of Bicycle Facilities indicates a minimum bicycle railing height of 3'-6". What is your state railing height for interior railing (between traffic and bicyclists)?

- 29 (64.44%) 3'-6"
- 0 (0%) 4'-0"
- 6 (13.33%) 4'-6"
- 10 (20.22%) Other

For bicycle facilities, what is your state railing height for exterior (outside edge of deck) railing?

- 31 (70.45%) 3'-6"
- 0 (0%) 4'-0"
- 11 (25%) 4'-6"
- 2 (4.55%) Other

For bicycle facilities does your state require the interior railing to meet the TL-3 crash-tested requirements?

- 36 (81.82%) Yes
- 8 (18.18%) No

For bicycle facilities does your state require the exterior railing to meet the TL-3 crash-tested requirements?

- 9 (20%) Yes
- 36 (80%) No

Culverts

Does your state allow the use of precast box culverts?

- 35 (77.78%) Yes
- 10 (22.22%) Yes in some cases
- 0 (0%) No

If you answered “yes” to Question 67, does your state have any limits of fill heights on the use of precast box culverts?

- 1 (3.45%) Min 2 ft – Max 10 ft
- 2 (6.9%) Min 2 ft – Max 15 ft
- 4 (13.79%) Min 2 ft – Max 20 ft
- 3 (10.34%) Min 2 ft – Max 25 ft
- 19 (65.52%) Min 2 ft – Max 30 ft
69. If you answered “yes” to Question 67, does your state have any limits of settlements on the use of precast box culverts?
   - 19 (44.19%) < 6 in.
   - 0 (0%) < 12 in.
   - 0 (0%) < 18 in.
   - 0 (0%) < 24 in.
   - 24 (55.81%) No limit

70. Does your state use precast culvert sections that have non-parallel segment ends to provide a bend from end to end of the culvert??
   - 1 (2.27%) Yes; always
   - 24 (54.55%) Yes; sometimes
   - 19 (43.18%) No

71. What methods does your state use to tie precast box culvert sections together?
   - 6 (13.64%) Single steel ties each side
   - 5 (11.36%) Multiple steel ties each side
   - 5 (11.35%) Multiple steel ties each side plus single or multiple steel ties on top
   - 28 (63.64%) No ties

Signalling and Lighting Structures

72. Has your state adopted 2015 AASHTO LRFD-LTS for Sign/Signal/Light Support Design?
   - 10 (23.81%) Yes, fully or partially adopted
   - 27 (64.29%) No, but under consideration
   - 5 (11.90%) No, not under consideration

73. If you answered “no” to the above question, when does your state plan to adopt AASHTO LRFD-LTS?
   - 1 (3.03%) 2016
   - 8 (24.24%) 2017
   - 3 (9.09%) 2018
   - 21 (63.64%) No Plan

74. If you answered “no plan” to the above question, what edition of AASHTO-LTS is your state currently using?
   - 1 (3.7%) 1994
   - 5 (18.52%) 2001 or 2009
   - 12 (44.44%) 2013
   - 9 (3.33%) Combination
CONSTRUCTION

75 What method(s) does your state use to reduce the potential for bridge deck cracking (check all that apply)?
   - 41 (91.11%) Burlap/Polyethylene Sheeting
   - 9 (20%) Copolymer/synthetic Blanket
   - 26 (57.78%) Membrane Curing Compound
   - 4 (8.89%) Lithium Curing Compound
   - 21 (46.67%) Sawing grooves versus tinning
   - 8 (17.78%) Macro/micro fibers
   - 7 (15.56%) Other

76 The US Environmental Protection Agency (EPA) is now requiring the testing of bridge concrete for the presence of asbestos-containing material, (EPA 450/3-90-017), if any concrete removal is to be done on the bridge. Has your state been able to implement this requirement?
   - 14 (32.56%) Yes, all of the time
   - 6 (13.85%) Some of the time
   - 1 (2.33%) Rarely
   - 22 (51.15%) No

77 When replacing bridge decks on continuous truss bridges, how does your state ensure that truss members are not overstressed during construction activities? (check all that apply)
   - 25 (65.79%) Develop a fully engineered construction sequence prior to bid
   - 16 (42.11%) Require the contractor to provide full engineering
   - 11 (28.95%) Place prescriptive limits on construction equipment weight
   - 16 (42.11%) Place prescriptive limits on how much deck load can be removed and/or stockpiled at a time

78 Check all that apply to your state concerning construction of severely skewed bridges:
   - 6 (13.33%) Issues resolved by following the AASHTO Construction Specifications
   - 21 (46.67%) Issues resolved following state-specific guidance or details
   - 9 (20%) Issues unresolved
   - 18 (40%) Haven’t had issues or the skew of bridges is limited

79 Prior to placing modified concrete overlays, what does your state do for the existing deck?
   - 30 (71.43%) Pre-wetting
   - 8 (19.05%) Chemical primers
   - 4 (9.52%) Neither
Many Contractors are requesting larger pours for CIP bridge decks. Does your state allow these larger, sometimes continuous pours?

- **38 (86.36%)** Yes
- **6 (13.64%)** No

If you answered “yes” to the above question, does your State have a volume limit for deck pours?

- **15 (36.59%)** No
- **1 (2.44%)** Yes - <200 CY
- **3 (7.32%)** Yes - >200, but < 400 CY
- **1 (2.44%)** Yes - >400 CY
- **21 (5.12%)** Yes - Limited by pour rate/duration/air temp

Which methods does your state prefer for the non-destructive testing of drilled shafts?

- **38 (88.37%)** Crosshole Sonic Logging
- **3 (6.98%)** Thermal Integrity Profiling
- **1 (2.33%)** Gamma-Gamma Logging
- **0 (0%)** Embedded Data Collector
- **1 (2.33%)** Other

What method(s) does your state use for pile driving? (check all that apply)

- **10 (23.26%)** ENR
- **9 (20.93%)** Modified Gates
- **38 (88.37%)** Wave Equation Analysis (WEAP)
- **34 (79.07%)** Dynamic Load Test
- **8 (18.60%)** Other

What method of bearing capacity evaluation is preferred for driving concrete friction piles?

- **1 (2.56%)** ENR
- **4 (10.26%)** Modified Gates
- **9 (23.08%)** Wave Equation Analysis (WEAP)
- **20 (51.28%)** Dynamic Load Test
- **5 (12.82%)** Other

What method of bearing capacity evaluation is preferred for driving steel H-Piles for end bearing on rock?

- **4 (9.09%)** ENR
- **5 (11.36%)** Modified Gates
- **10 (22.73%)** Wave Equation Analysis (WEAP)
- **18 (40.91%)** Dynamic Load Test
- **7 (15.91%)** Other
86 What qualifications does your state require for personnel conducting NDT as part of 
steel/concrete fabrication QA Program? (check all that apply) 
14 (34.15%) State qualification 
21 (51.22%) ASNT certification 
14 (34.15%) AISC certification 
17 (41.46%) ACI certification 
17 (41.46%) Other 

87 What types of rebar supports (dobies) have been used in your state? (check all that apply) 
30 (66.67%) Concrete 
39 (84.44) Steel 
40 (88.89%) Plastic 

MAINTENANCE 

Bridge Preservation 

88 Has or will your state used/use a resin-based ultra-violet resistant cover application on 
deteriorated or new steel girder ends (including end diaphragms and bearing) under joints 
that are prone to leakage? 
4 (8.89%) Yes 
41 (91.11%) No 

89 Does your state have a list of maintenance/preservation actions with associated unit 
cost that you would share with an NCHRP research team? 
17 (38.64%) Yes, for contract work 
4 (9.09%) Yes, for state forces work 
23 (52.27%) No 

90 Does your state routinely test for chloride content in decks or substructure that you 
would share with a Federal research team? 
2 (4.55%) Yes, correlated to deicing chemical application rate 
7 (15.91%) Yes, not correlated to deicing chemical application rate 
35 (79.55%) No 

91 Does your state have a program/initiative to reduce bridge deck cracking and improve 
bride deck performance? 
4 (8.89%) Yes, involving a deterioration model 
16 (35.56%) Yes, not involving a deterioration model 
25 (55.56%) No
92 If you answered “yes, involving a deterioration model” to the above questions, how did your state come upon the model?

1 (14.29%) Software Output based on an established theory
5 (71.43%) Custom (Data mining and statistical analysis)
1 (14.29%) Other

Steel

93 Has your state built High Performance Steel/Weathering Steel bridges?
40 (88.89%) Yes
5 (11.11%) No

94 If you answered “yes” to the above question, does your state have a maintenance policy which includes regularly scheduled washing HPS/Weathering steel superstructures?
5 (12.5%) Yes
35 (87.5%) No

Overlays

95 What demolition method does your state use to remove the unsound deck concrete prior to the application of a Latex-modified, Microsilica, or dense Concrete Overlay?
28 (62.22%) Hydro-demolition
6 (13.33%) Conventional Scarifying
1 (2.22%) Other
10 (22.22%) Do not use latex overlay

96 When performing preservation activities of Microsilica, dense, polyester or thin-bonded epoxy overlays on existing latex Microsilica, dense, polyester or thin-bonded epoxy overlays, what preparation activities are performed?
3 (7.14%) None (place on top of existing overlay)
25 (59.52%) Scarify or hydro-demo entire existing overlay
5 (11.90%) Scarify or hydro-demo specific areas
9 (21.43%) Do not use latex Microsilica, dense, polyester or thin-bonded overlay

Inspection

97 Does your state require certification or qualification for NDT UT inspection of pins? (check all that apply)
13 (29.55%) State qualification
18 (40.91%) ASNT Level III certification
13 (29.55%) Other
How does your state collect bridge inspection data during a field inspection?

9 (20%) Electronically
11 (24.44) Pencil and Paper
25 (55.56%) Combination of Paper and Electronically
0 (0%) Other

Has, or will, your state use agency-defined elements to inventory and inspect sub-components of functional systems during tunnel inspections?

7 (15.56) Yes
7 (15.56%) No
21 (46.67%) To be determined
10 (22.22%) No tunnels in State

How long does your state keep bridge inspection records?

0 (0%) 2 to 5 years
2 (4.44%) 6 to 10 years
0 (0%) 11 to 15 years
4 (8.89%) Over 16 years
39 (86.67%) The life of the asset

Is your state having issues with the patina not forming or the patina being compromised on weathering steel bridges, particularly over high speed roads?

0 (0%) Over low speed travel lanes
9 (32.14%) Over high speed travel lanes
19 (67.86%) Other

Who inspects tunnels in your state?

12 (26.67%) In-house staff
5 (11.11%) Consultants
10 (22.22%) Combination of in-house staff and consultants
7 (15.56%) To be determined; inspection program still in development
11 (24.44%) No tunnels in State

Loading Rating and Posting

For bridges built prior to 1931, what method does your state use for load rating and overload permitting?

9 (20.45%) AASHTO LRFR
4 (9.09%) AASHTO ASR
27 (61.36%) AASHTO LFR
4 (9.09%) Other
104 Has your state adopted a policy or practice of assigned load ratings in accordance with AASHTO MBE Section C6A.1.1 or Section C6B.1 as supplemented by FHWA’s memo?

32 (74.42%) Yes
10 (23.26%) No
1 (2.33%) Not Applicable

105 What is the primary software used in your state to load rate bridges?

24 (54.55%) AASHTOWare BrR
6 (13.64%) LARS Bridge
4 (9.09%) BRASS
10 (22.73%) Other

106 What is the secondary software used in your state to load rate bridges?

4 (9.52%) SAP2000/CSiBridge
6 (14.29%) MIDAS Civil
0 (%) ADINA
32 (76.19%) Other

107 What specific methods are used in your state to rate existing bridges?

23 (54.67%) LFR for all
17 (40.48%) LRFR for all
1 (2.38%) LFR for steel and LRFR for concrete
1 (2.38%) LFR for concrete and LRFR for steel

108 Does your state use LRFR method to rate reinforced concrete bridges?

28 (65.12%) Yes
15 (34.88%) No

109 If you answered “yes” to Question 108, are you including shear in your analysis?

27 (90%) Yes
3 (10%) No

110 If you answered “yes” to Question 108, are there any issues?

10 (35.71%) No issue
13 (46.37%) Minor issue
2 (7.14%) Significant issue, putting on hold or developing workarounds
3 (10.71%) Significant issue, posting or strengthening to comply with ratings

111 Has the end panel shear been an issue (controlling and lowering the rating) in your state when rating steel plate girder bridges?

16 (37.21%) Yes
27 (62.79%) No
112 If you answered “yes” to the above question, what are your possible solution?
   3 (16.67%) No issue
   1 (5.56%) Bridge rating on hold
   3 (16.67%) Using partial tension-field action theory outside software
   11 (61.11%) Other

113 Is your State rating for the AASHTO SHV legal trucks or do your State Legal Loads
govern over the SHVs? If you are rating for the AASHTO SHV trucks are you utilizing a
screening method to prioritize your bridge ratings?
   20 (46.51%) Yes; rating for SHVs
   12 (27.91%) Yes; rating for SHVs but using screening criteria to prioritize
   11 (25.58%) Not rating for SHVs

114 Has your state completed the gusset plate analysis?
   32 (72.73%) Yes
   12 (27.27%) No

115 If you answered “yes” to the above question, how did you obtain the details of Gusset
plates of trusses to perform Gusset Plate analysis?
   3 (8.57%) As-built plans
   3 (8.57%) Field measurements
   28 (80%) Combination of both field measurements and as-built plans
   1 (2.86%) Automated photo rectification

116 Does your state rate pin and hanger assembly when performing routine load rating
process??
   9 (20.93%) Yes
   34 (79.07%) No

117 Does your state rate culverts with less than 20 ft spans?
   16 (35.56%) Yes
   29 (64.44%) No

118 If you answered “yes” to the above question, does your state use the methods given in the
MBE?
   14 (87.5%) Yes
   2 (12.5%) No

119 Does your state consider the eccentricity of truss members during rating analysis?
   11 (25%) Yes
   33 (75%) No

120 If you answered “yes” to the above question, does your state always use the eccentricity
measured in the field?
   3 (25%) Yes
   9 (75%) No
121 How many truck configurations are represented on your state’s standard bridge load posting sign?
- 15 (34.88%) 2 or less
- 18 (41.86%) 3 or 4
- 4 (9.3%) 5 or 6
- 4 (9.3%) 7 or 8
- 2 (4.65%) 9 or more

Leased Airspace Beneath Bridges

122 Does your state lease surface rights or air space beneath bridges?
- 20 (45.45%) Yes
- 24 (54.55%) No

123 If you answered “yes” to the above question, who does your state lease air space to?
- 3 (15%) Public agencies
- 0 (0%) Private entities
- 17 (85%) Both

124 Does your state allow the construction of buildings or other permanent structures in leased air space beneath bridges?
- 10 (27.03%) Yes
- 27 (72.97%) No

125 If you answered “yes” to the above question, what kind if occupancy does your state permit in buildings under bridges?
- 5 (45.45%) Transitory
- 6 (54.55%) Permanent

126 Does your state have written requirements for leased airspace beneath bridges?
- 13 (33.33%) Yes
- 26 (66.67%) No

127 If you answered “yes” to the above question, does your state’s requirements address any of the following? (check all that apply)
- 12 (92.31%) Routine bridge maintenance and bridge inspection
- 12 (92.31%) Emergency Access
- 10 (76.92%) Minimum setbacks, horizontal and vertical clearance to bridge components
State: 45

California
Ohio
Alaska
New Mexico
NH
Virginia
Connecticut
Tennessee
Texas
Colorado
Montana
New York
Kentucky
West Virginia
Utah
Idaho
Maine
NEW JERSEY
North Carolina
ARKANSAS
AZ
Nevada
Maryland
Michigan
Florida
Minnesota
Washington
Iowa
Kansas
Nebraska Department of Roads
Mississippi
Missouri
Illinois
Wisconsin
Indiana
South Carolina
Louisiana
Wyoming
Vermont
South Dakota
Pennsylvania
Oregon
Delaware
North Dakota
Georgia

Name of person compiling survey responses: ________________
PLEASE COMPLETE THE SURVEY USING THE LINK PROVIDED. QUESTIONS MAY BE DIRECTED TO:

Lian_Duan@dot.ca.gov        Cc  Susan_Hida@dot.ca.gov

By FRIDAY, May 30, 2016

Caltrans will compile the results and make available in time for the 2016 Annual SCOBS Meeting. Thanks in advance for your on-time participation.