

2015  
**Design Training**  
*Expo*

# Structurally Deficient and Functionally Obsolete Bridges

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# Background

- Federal Definition
- Funding
- Performance Measure
- Allocation



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# Work Program

- Program State Owned Structurally Deficient Bridges
- Local government prioritize Structurally Deficient



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# Structurally Deficient (SD) Definition

- Deck, Superstructure, Substructure or Culvert – 4 or less
- Structural Condition or Waterway Adequacy – 2 or less
  - Very low inventory load rating and bridge requires replacement
  - Frequent flooding that causes traffic delays
- SD not necessarily unsafe



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# Condition Rating

## Not Structurally Deficient

- 9 – Excellent
- 8 – Very Good Condition
- 7 – Good Condition
- 6 – Satisfactory Condition
- 5 – Fair Condition

## Structurally Deficient

- 4 – Poor Condition
- 3 – Serious Condition
- 2 – Critical Condition
- 1 – Imminent Failure
- 0 - Failed



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# Structurally Deficient Bridges

District	State	Local
1	3	5
2	18	68
3	23	45
4	8	13
5	6	5
6	3	11
7	3	8
Turnpike	0	0
Total	64	155



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# Structurally Deficient Bridge

- Poor Superstructure



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# Functionally Obsolete (FO) Definition

- Deck Geometry Rated 3 or less
- A 2 way 2 lane bridge with ADT > 5000 narrower than 32' 1"
  - An interstate bridge 1 way 2 lanes narrower than 34' 1"
  - A non interstate bridge 1 way 2 lanes narrower than 29' 10"
- Underclearance Rated 3 or less
  - Example bridge over the interstate < 15'



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# Definition Continued

- Approach Roadway rated 3 or less – requires major traffic slowdown to cross the bridge
- Very low inventory load rating and bridge needs repair
- Occasional flooding that causes traffic delays



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# Functionally Obsolete Bridges

District	State	Local
1	73	248
2	167	68
3	33	203
4	45	170
5	112	102
6	158	99
7	83	123
Turnpike	55	0
Total	726	1013



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# Functionally Obsolete too low



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# Caveats

- If a bridge qualifies as SD and FO then SD not both
- MAP 21 removed '10 Year Rule'
- MAP 21 also removed federal consideration of Sufficiency Rating



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# MAP 21 Performance Measure

- SD Deck Area < 10% on NHS for each state
- Based on 2014 NBI Data
  - Florida 1.84%
  - 7 states and Puerto Rico exceed 10%



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# National Highway System MAP 21

- Functional Class all Principal Arterials
- Strategic Highway System
- Intermodal Connector Roads

	NHS	Non NHS	Total
State	5467	1508	6975
Local	138	5240	5378
Total	5229	6748	12353



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# Questions

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