

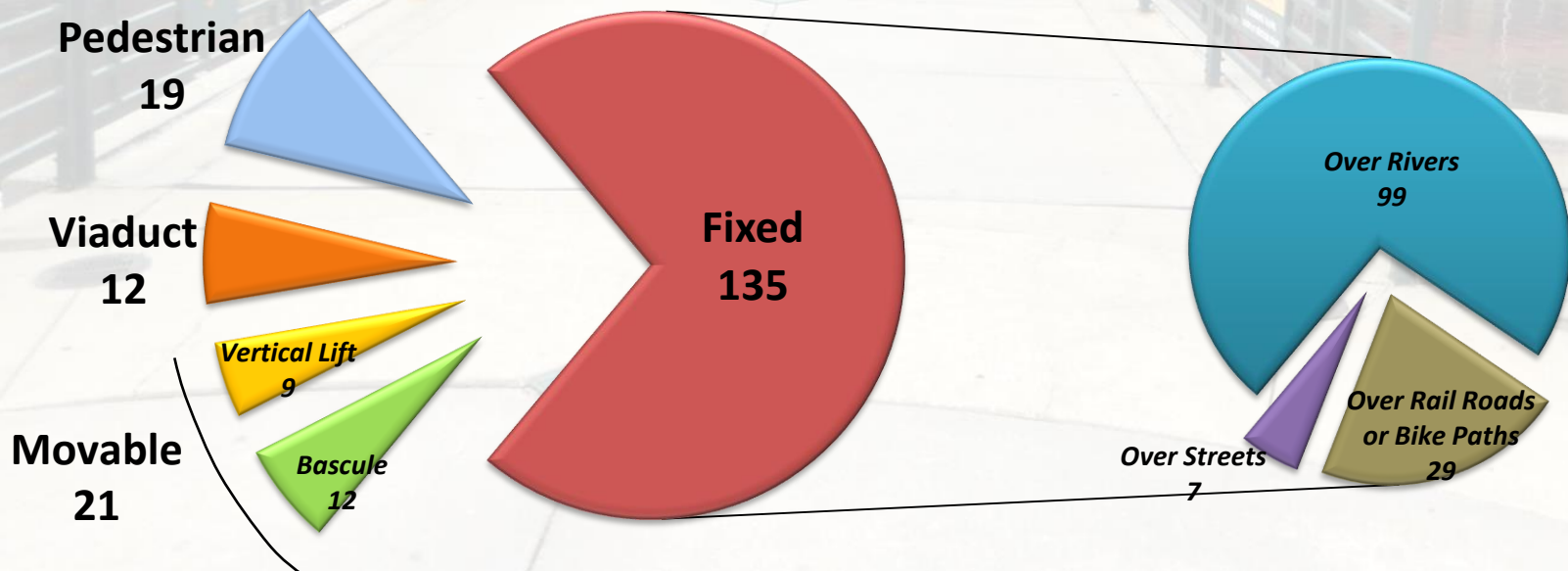
# **City of Milwaukee Department of Public Works Bridge Condition Report**





# 2014 City Bridge Inventory

- 187 City-owned and maintained bridges
  - Added nine bridges since 2012
  - Removed one bridge
- Relative comparison of bridge types:



# Bridge Structure Inspection

- In accordance with FHWA and WisDOT standards
- Conducted by DPW personnel
  - FHWA certified Bridge Inspectors
- Bridges inspected *every* 24 months, except:
  - Annually for:
    - Movable bridges
    - Structurally deficient bridges





# Types of Bridge Inspection

- Initial
- Routine
- Fracture Critical
- In-Depth with Non-Destructive Testing



# Types of Bridge Inspection (Cont'd)

- Interim
- Movable
- Underwater Survey
- Underwater Visual Probe
- Underwater Dive (Every 5 years) Last performed in 2013





# Bridge Inspection Reports

- Standardized inspection reports
  - Submitted to WisDOT and entered into their database
  - Highway Structures Information (HSIS) database generates a bridge Sufficiency Rating (SR)

## Report:

WISCONSIN  
DEPARTMENT OF TRANSPORTATION

Inspection Report for  
P-40-586 ( City Bridge 510 )  
W GLENDALE AVE over LINCOLN CREEK  
Jun 23, 2014



Latitude: 43°06'02.58"N  
Longitude: 87°58'17.35"W

Owner: CITY  
Maintainer: CITY

Time Log  
Inspector: Washington, James  
Reviewer:

Team members  
James Hagen

25-Aug-2014

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BRIDGE NAME  
W GLENDALE AVE  
WISCONSIN DISTRICT  
DT2007 2007

Identification & Location  
W GLENDALE AVE  
LINCOLN CREEK  
1900 N JCT DTH 190

Geometry  
Span(s) 100  
Deck Width 24.5  
Clearance 24.5

Load Rating  
Capacity 100  
Rating 100

Hydraulic  
101 STAG-CASE TOP FOOTING

Spans(s)  
100

Expansion joint(s)  
100


Highway Wisconsin Center for  
Highway Wisconsin Center for  
Highway Wisconsin Center for

## Photographs:


#100 Broadway over the Milwaukee River  
Movable Inspection




Bascule bridge opening




Southeast wing wall, note excess debris



East elevation of bridge



North approach slab looking west



North abutment with spalling and cracking - typical condition

Top of deck and approach

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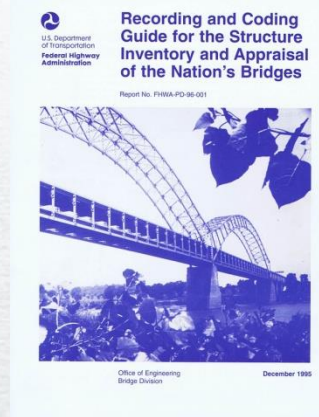
4/16/2009

4/16/2009

# Sufficiency Rating (SR)

- FHWA standard measures service condition
- Three separate group factors determine SR Rating
  - Structural adequacy (Deck, Superstructure, and Substructure), 55 points
  - Serviceability and functional obsolescence, 30 points
  - Essentiality for public use, 15 points
- Condition and function are rated to current standards (not what the bridge may have been built to)

FHWA Coding Guide





# Sufficiency Rating (SR) Cont'd

- 100 points would represent an entirely sufficient bridge; 0 is insufficient or deficient bridge
- Rating is not a quantitative measure of safe versus unsafe
- Example, a 50 year old bridge may be structurally adequate but deficient due to current roadway widths, standards, or clearance



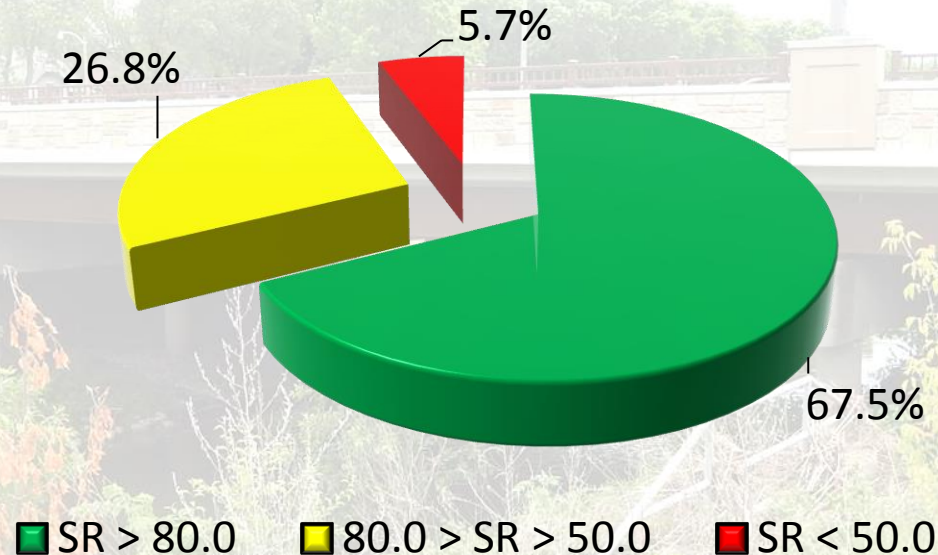
U.S. Department  
of Transportation

**Federal Highway  
Administration**



# Milwaukee Bridge Performance

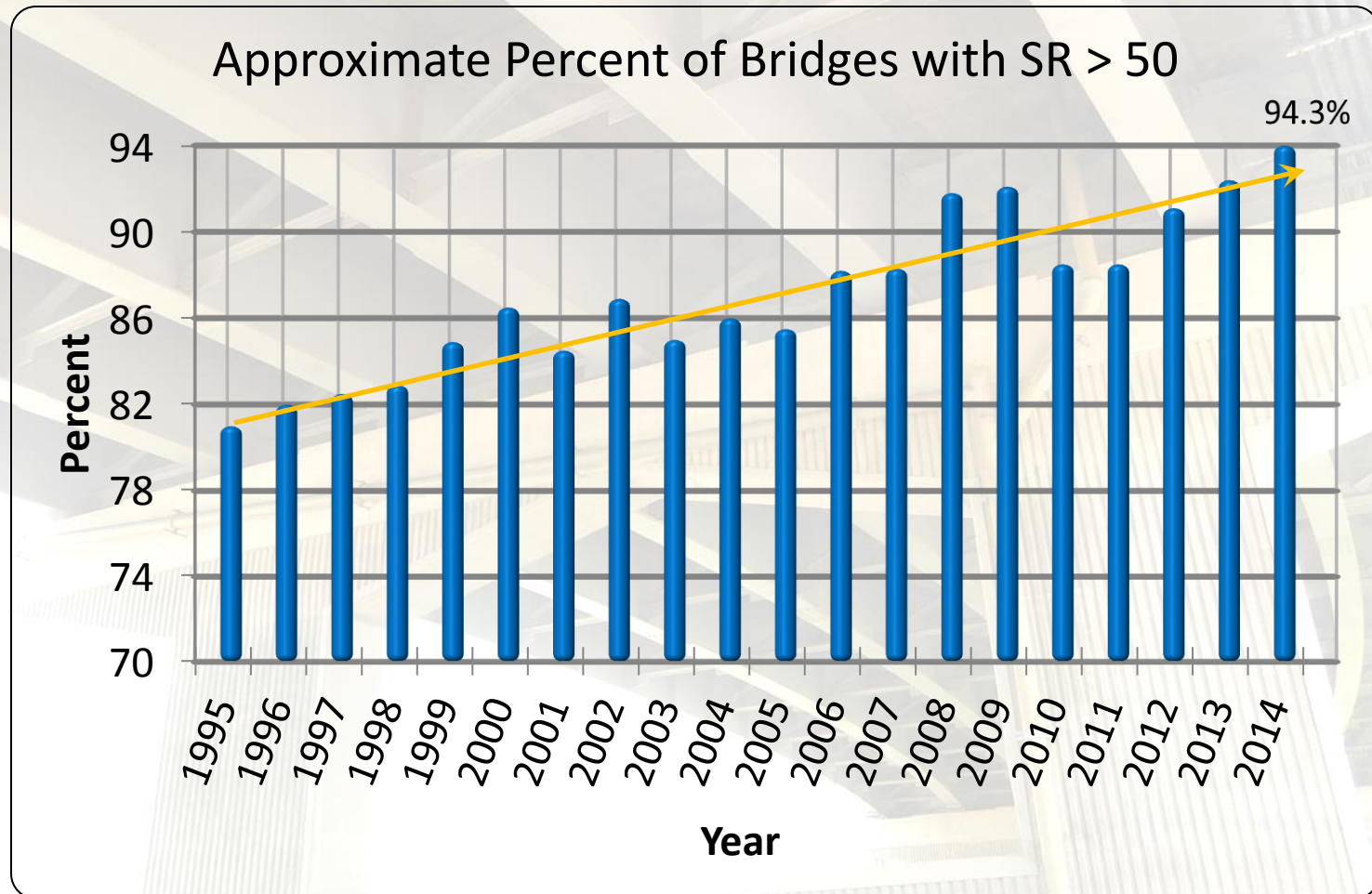
- Relative comparison of SR for city rated bridges, 2014



- Federal/State funding eligibility
  - SR < 80.0 : Bridge eligible for rehabilitation
  - SR < 50.0 : Bridge eligible for rehabilitation or replacement

# Milwaukee Bridge Performance

- SR of bridge inventory trending upwards

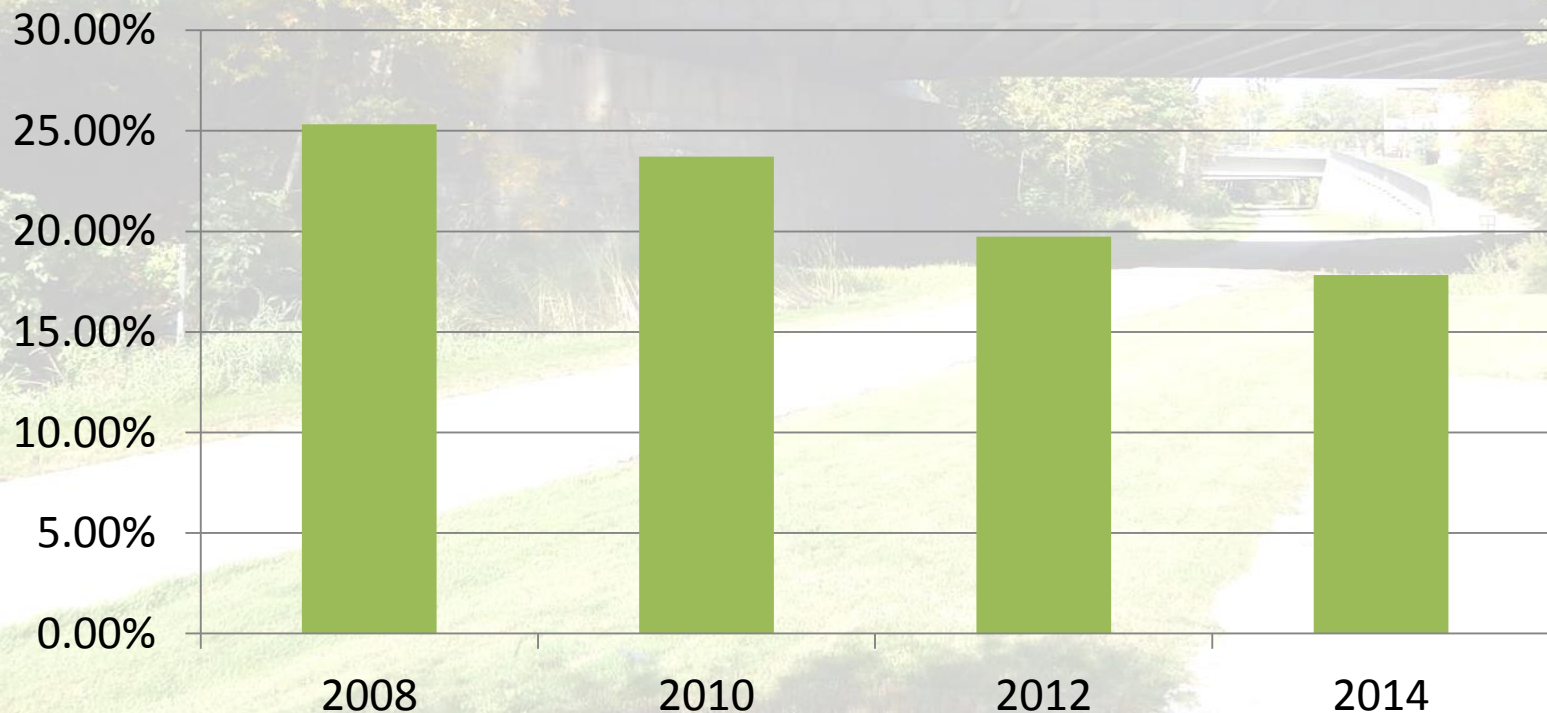




# Milwaukee Bridge Performance

- Percentage of structurally deficient bridges trending downwards

**Percentage of Structurally Deficient Bridges**



# Bridge Rehabilitation/Reconstruction Selection Process

- Bridge Sufficiency Ratings are updated in January, based on inspections from the previous year.
- Deck, Superstructure and Substructure ratings are updated.
- Determine which bridges are eligible for federal funds.
- Balance of needs would be locally funded.
- Develop six-year capital program.





# Federal/State Program

- Available only for those bridges deemed as federally eligible
- Competitive application process for limited state-wide program dollars
- \$32.9 million/year for State fiscal years 2014 and 2015
- Applied for on a 2 year cycle
- Generally 80% Federal/State funded with 20% local share





# Local Program

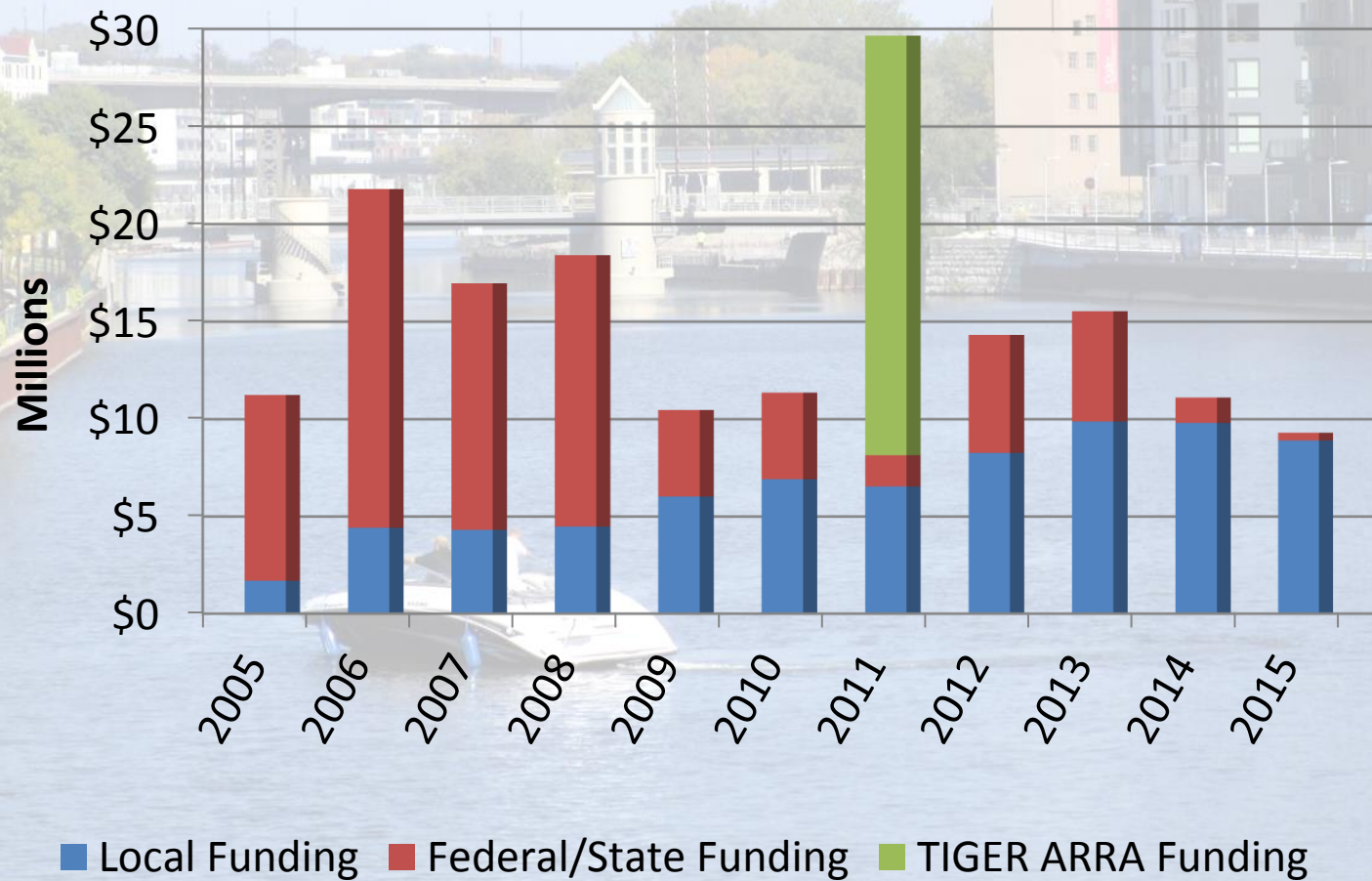
- Bridges not deemed Federal/State eligible
- Bridges in which Federal/State funds not available or insufficient
- Maintenance work including structure repair, painting, mechanical upgrades, inspections, pre-engineering activities, etc.





# Summary of Capital Bridge Program

## 2005-2015



# Questions?

