

Bridge Management Questionnaire Report

National Bridge Management, Inspection and Preservation Conference (NBMIPC)

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Presentation Outline

- Questionnaire Introduction, background, questions used, report outline, findings
- Technical Assistance and support



Introduction

- The OIG recommended that the FHWA:
 - a) initiate a program to **collect** data regularly on the States' use of BMS,
 - b) evaluate the data to **identify** States needing help in implementing an effective BMS, and
 - c) provide **technical** assistance and training resources to them.



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- Bridge Management
 - Performed ***national survey*** of the FHWA Divisions regarding bridge management system implementation
 - Based on the survey, developed a ***targeted assistance*** plan
 - Provide assistance based on that plan

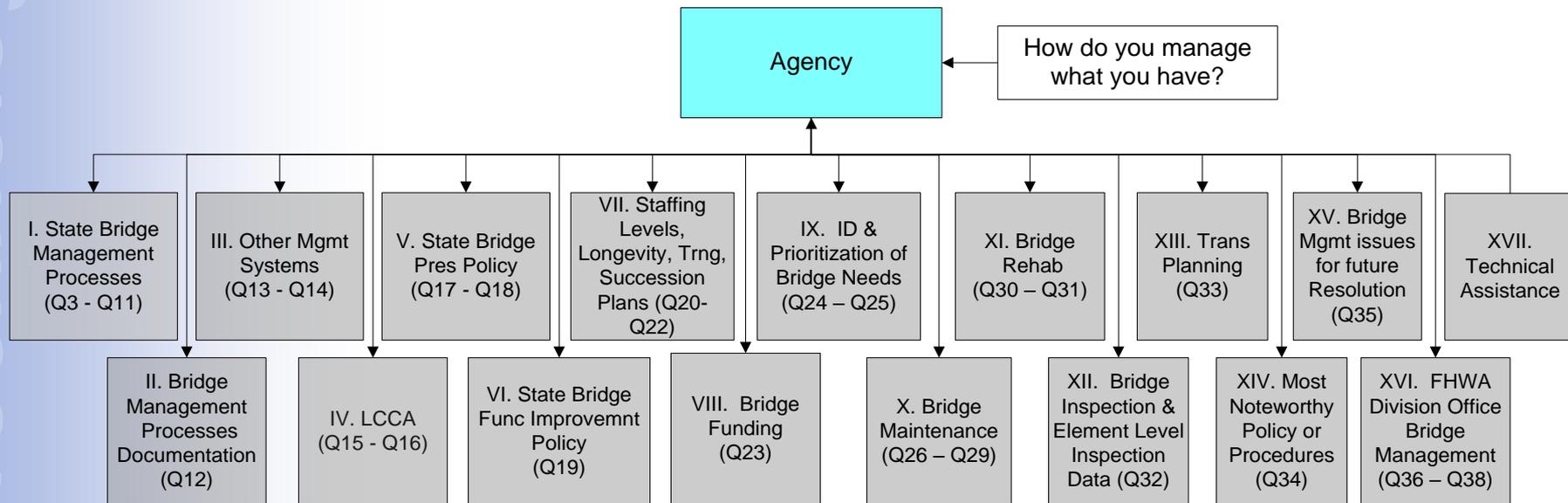


Bridge Management Questionnaire Report

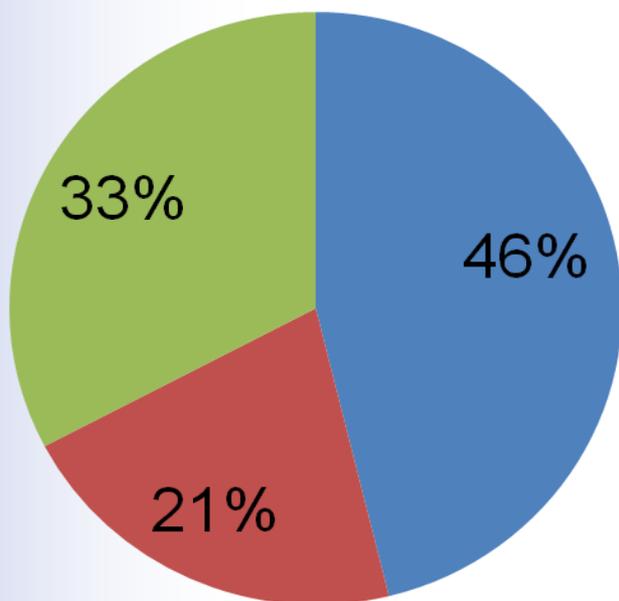
- Report issued on July 11, 2011
- Sent out in an email distribution
- Repeat questionnaire periodically
- Target Sept – Oct 2012



Bridge Management Questionnaire Report



Q3. What software product(s) or method(s) or tool(s) does the State use to: Capture and store bridge inspection/condition information

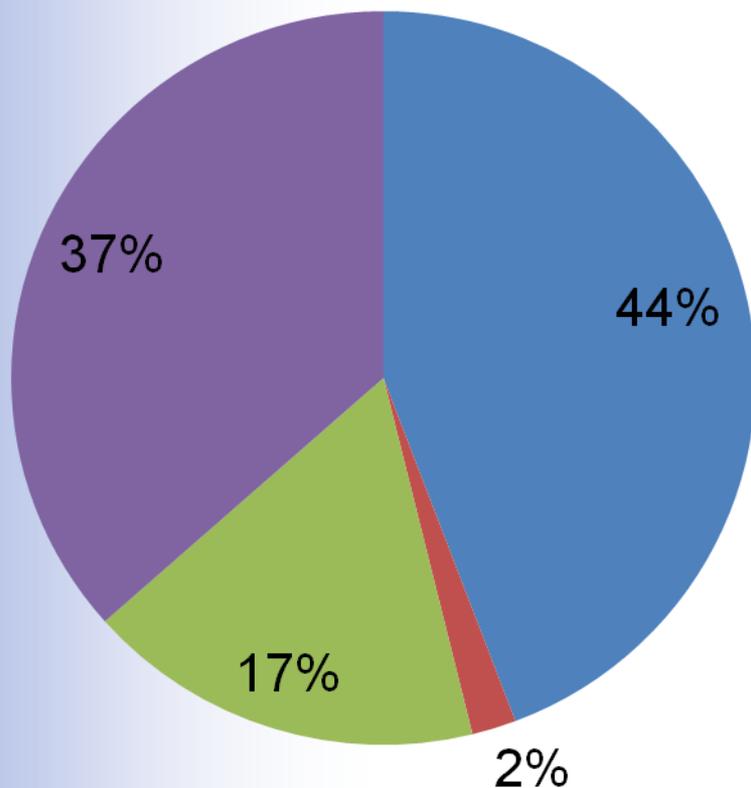


- 24 Division Offices indicate their states use Pontis analytical software for this
- 11 Division Offices indicate their states use Pontis and something else
- 17 Division Offices indicate their states use State Developed Analytical Software



Q3. What software product(s) or method(s) or tool(s) does the State use to:

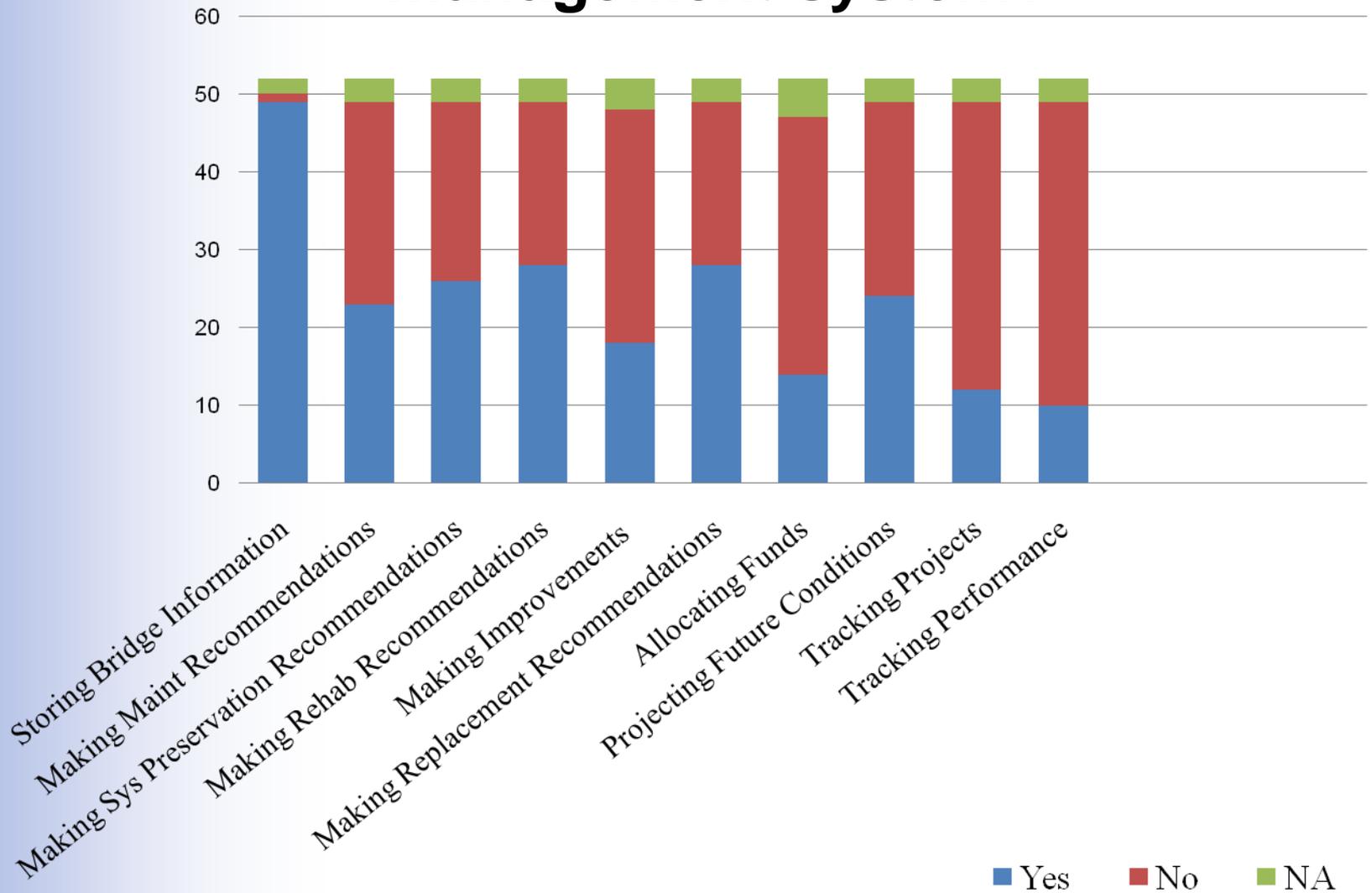
Predict future deterioration of bridge elements



- 23 Division Offices indicate their states use Pontis analytical software for this
- 1 Division Office indicate their State uses Pontis and something else
- 9 Division Offices indicate their states use State Developed Analytical Software
- 19 Division Offices indicate their States NA, or none



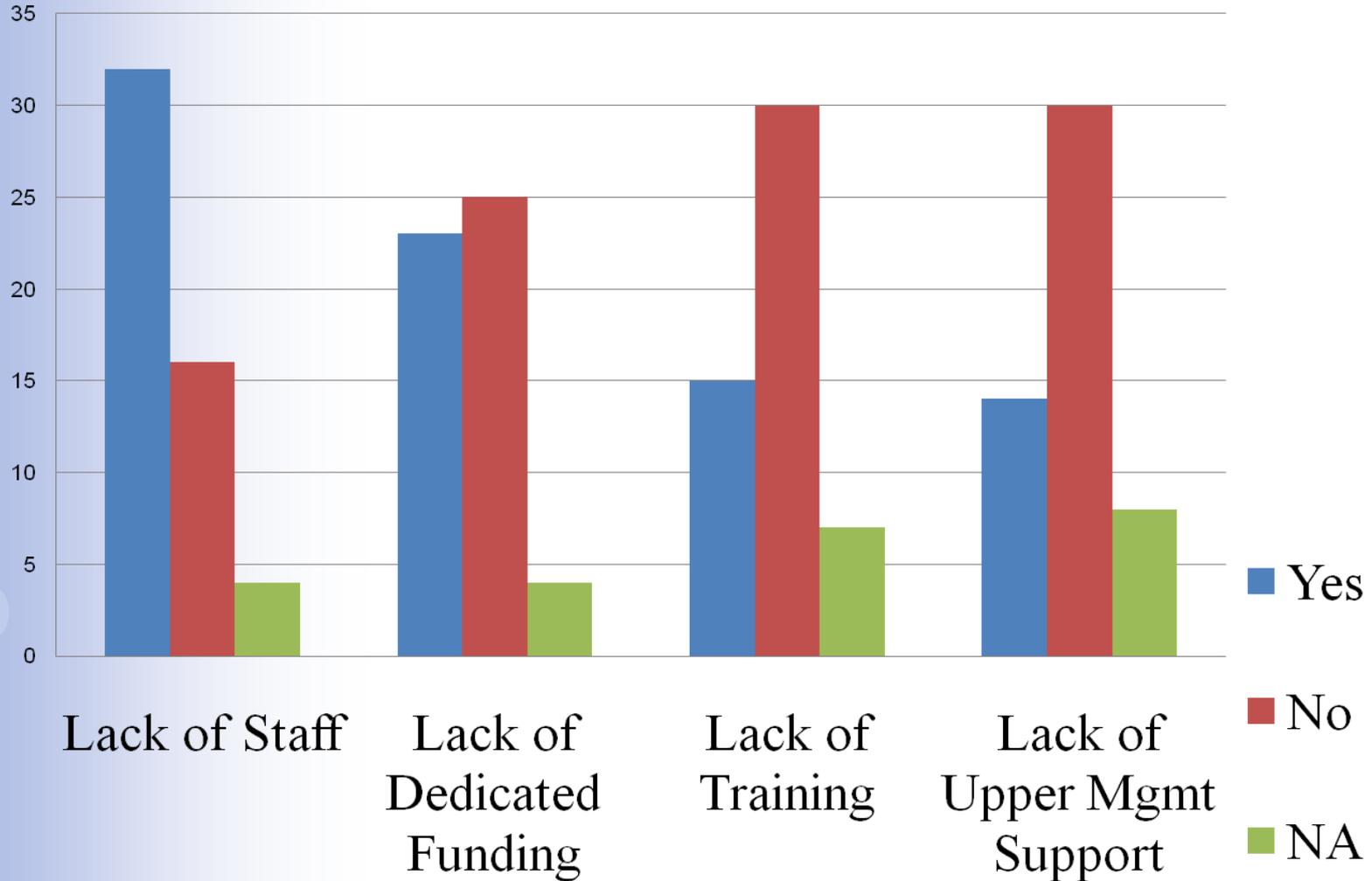
Q4. How is the State using its bridge management system?



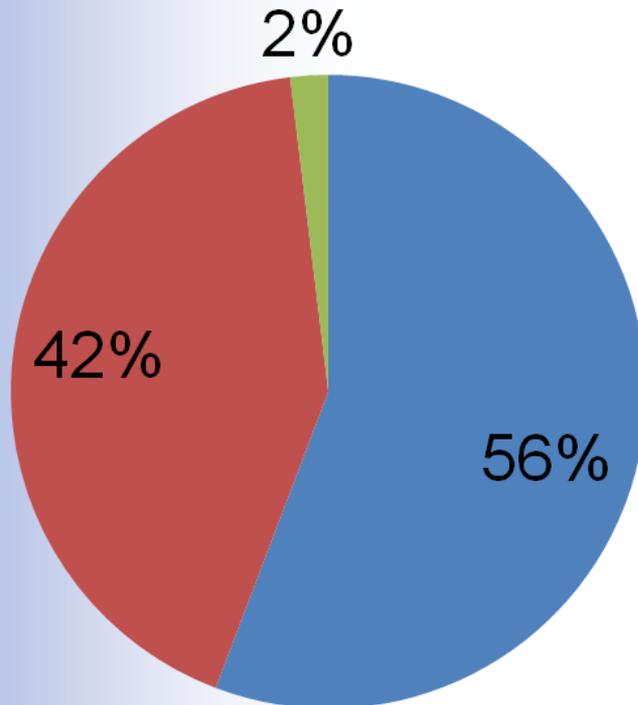
■ Yes ■ No ■ NA



Q5. If the State is not using the full capability of a BMS for decision-support what are the barriers that need to be overcome to implement BMS use?



Q6. Are changes needed to ingrain bridge management into the State's business practice?

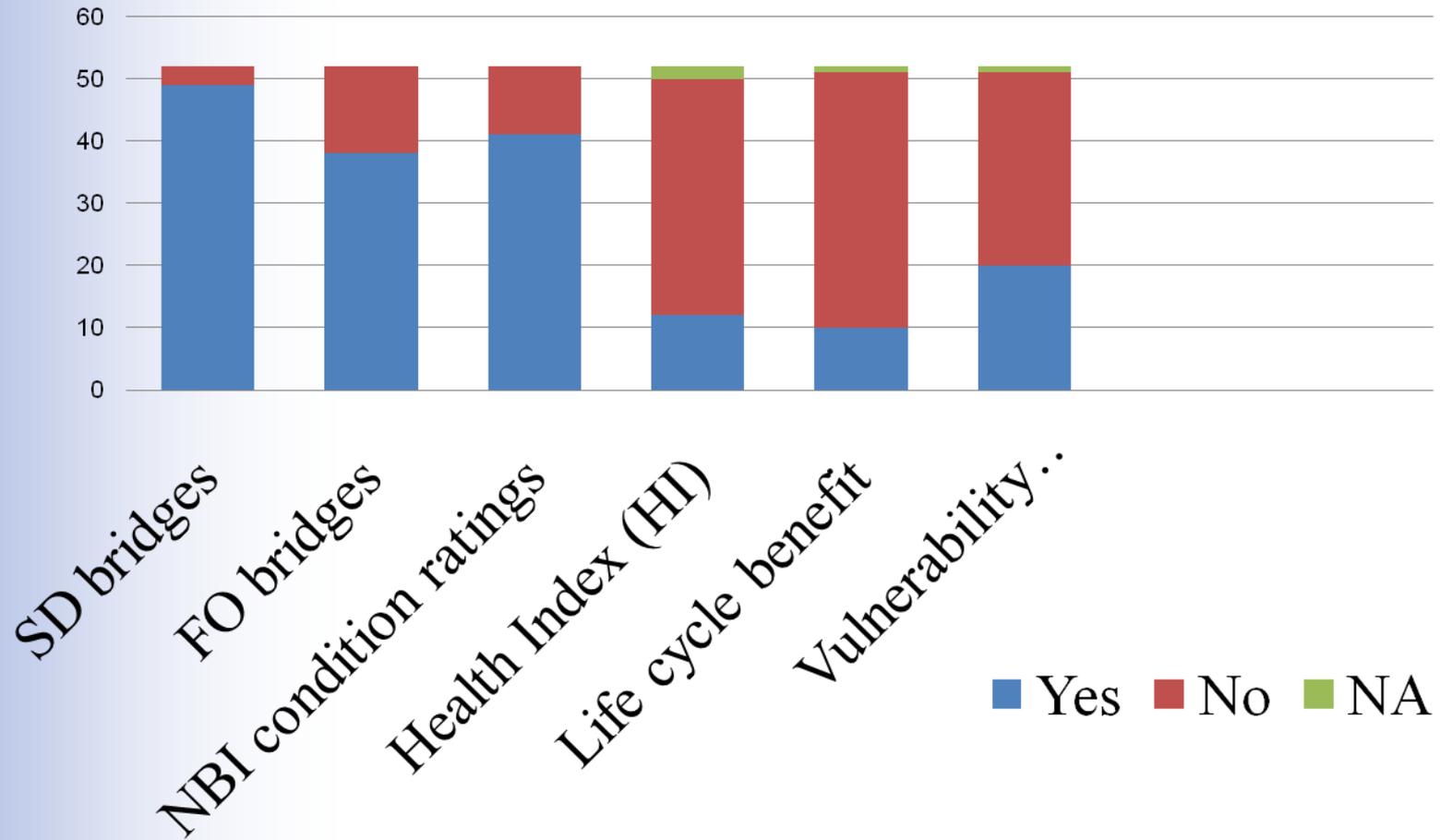


- 29 Division Offices indicated their States, changes needed
- 22 Division Offices indicated their States, changes not needed
- 1 Division Office indicated their State NA

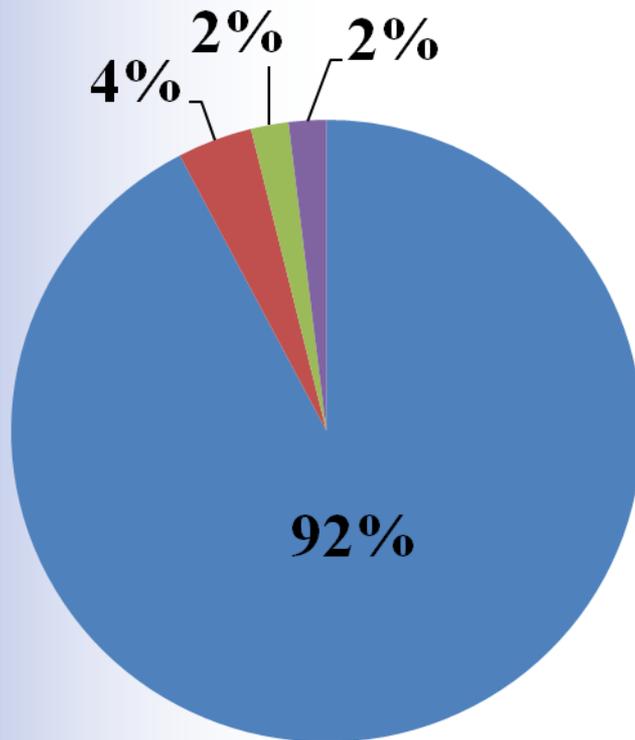


Q7. What bridge-related performance measures are used by the State?

Performance Measures



Q8. How is the State's BMS managed, i.e. from a central office, district or regional office location?



- 48 Division Offices indicated their states BMS are managed Centrally
- 2 Division Offices indicated their states BMS are managed Regionally
- 1 Division Office indicated their State BMS is managed at the District level
- NA, 1 State

Q9. At what level(s) of the State organization are bridge project programming decisions made?

- a) Central Office;
- b) Central and District;
- c) District;
- d) Chief Engineer;
- e) Chief Engineer and Director of Transportation;
- f) State Highway Commission;
- g) Commissioners Office etc

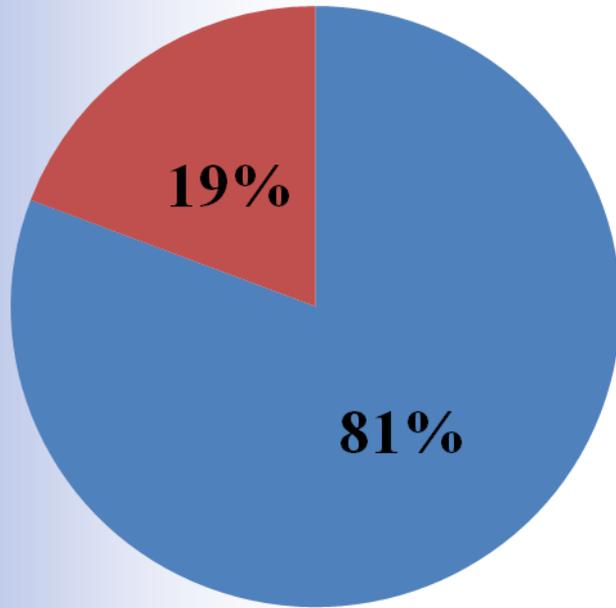


Q10. What information needed for decision-support is not currently supplied by the existing BMS?

- In general, lack of forecasting and modeling are factors for 11 states
- The need for additional data in general is an issue in 3 states
- Data quality is an issue in 1 State
- Ability to analyze vulnerability and risk are factors in 3 states
- Cost related data is an issue in 7 states
- Maintenance related data is an issue in 1 State



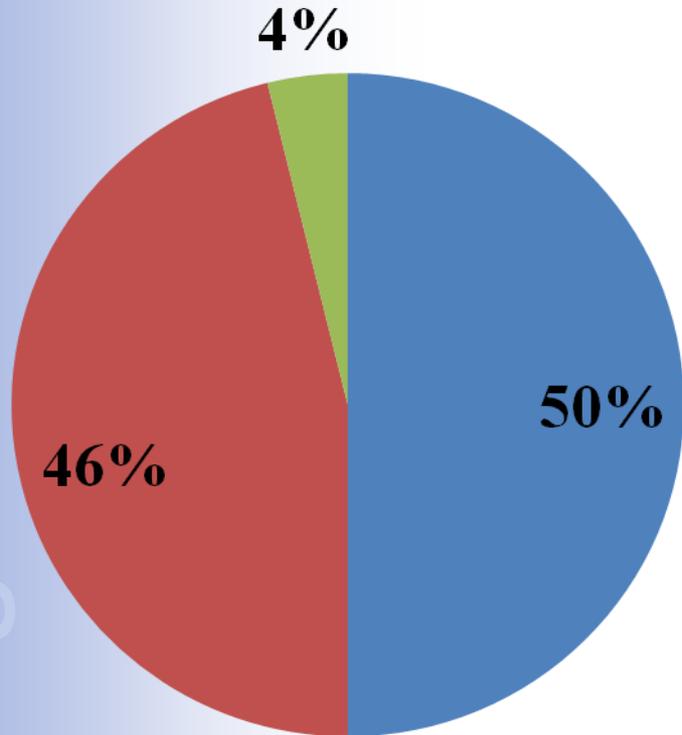
Q11. How does the State incorporate risk into bridge management decisions?



- 42 Division Offices indicated their states incorporate Risk
- 10 Division Offices indicated their states do not incorporate Risk



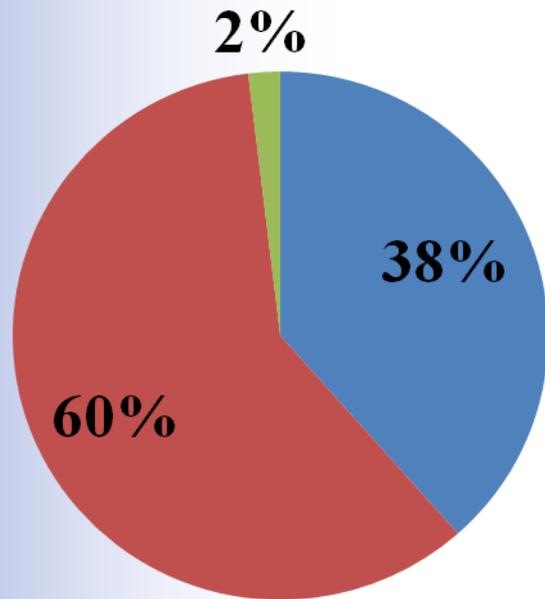
Q12. Does the State have documented bridge management practices?



- 26 Division Offices indicated their states document their practices
- 24 Division Offices indicated their states do not document their processes
- 2 Division Offices indicated their State NA



Q15. Are life cycle costs (LCC) considered in bridge management decision-making?



- 20 Division Offices indicated their states consider LCC
- 31 Division Offices indicated their states do not consider LCC
- 1 Division Office indicated their State NA

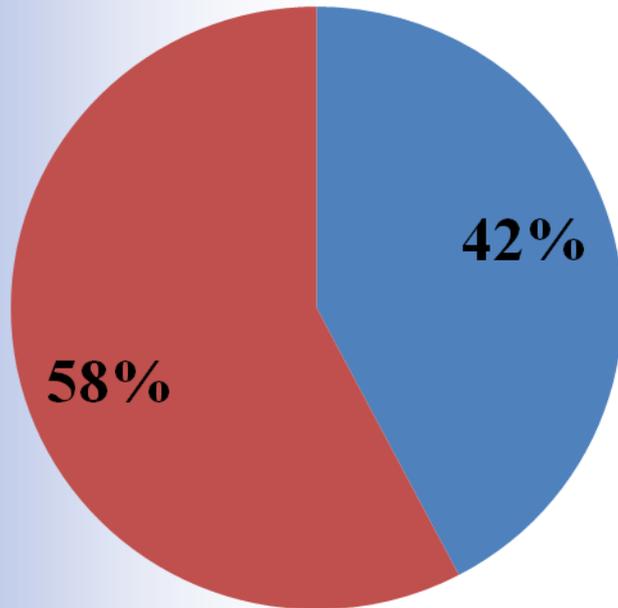


Q16. How does the State optimize its budget with respect to prioritizing bridge preservation, rehabilitation, improvement (i.e. widening, raising, strengthening) and replacement projects?

- As reported by Division Offices, thirteen states (23%) indicated that they are **not optimizing** their budgets...
- Other states seemed to simply describe their programs of how decisions were made. These states did not seem to indicate that there was a **formal process** in place to optimize the budget across...



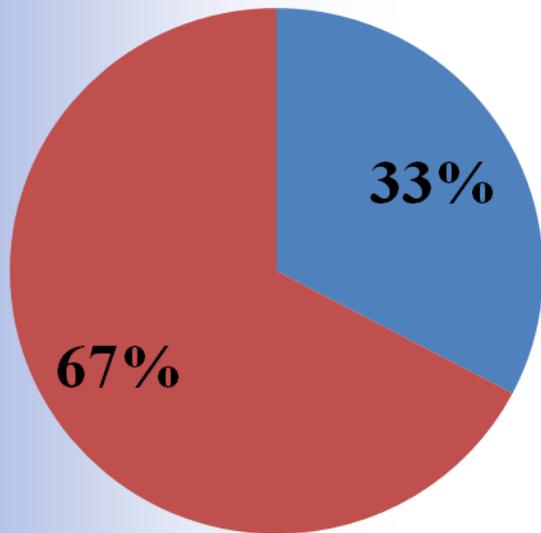
Q18. Does the State have a highway bridge preservation policy?



- 22 Division Offices indicated their states have a policy
- 30 Division Offices indicated their states do not have a policy



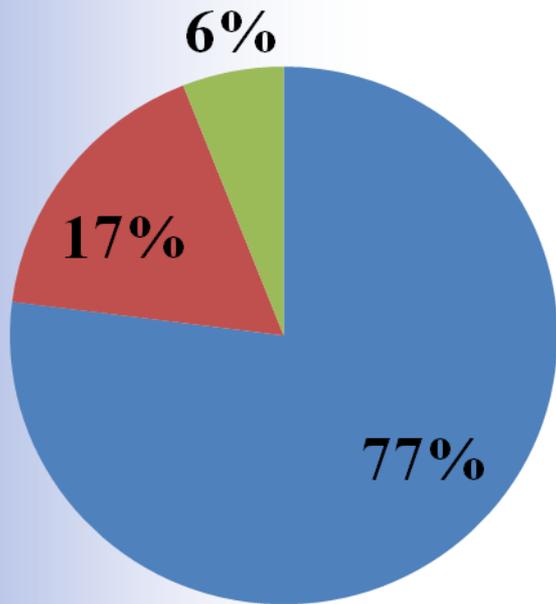
Q19. How is the State's BMS used to identify, prioritize, select and track bridge functional improvements (widening, raising, strengthening,) for State projects?



- 17 Division Offices indicated their states BMS is used in this manner
- 35 Division Offices indicated their states BMS is not used in this manner



Q20. Does the State have staff dedicated to operation of its BMS?

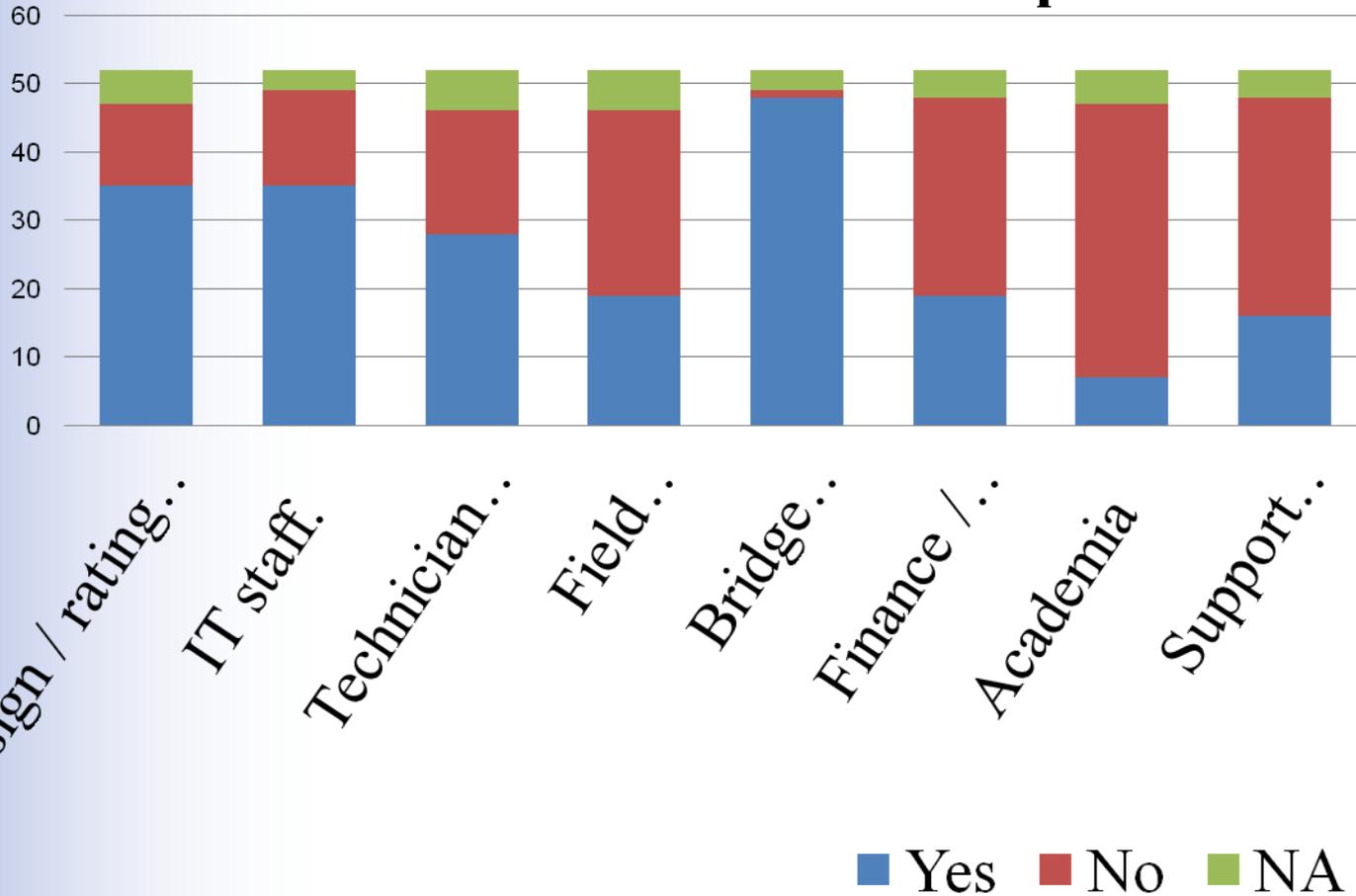


- 40 Division Offices indicated their states have dedicated staff
- 9 Division Offices indicated their states do not have staff
- 3 Division Offices indicated their states NA

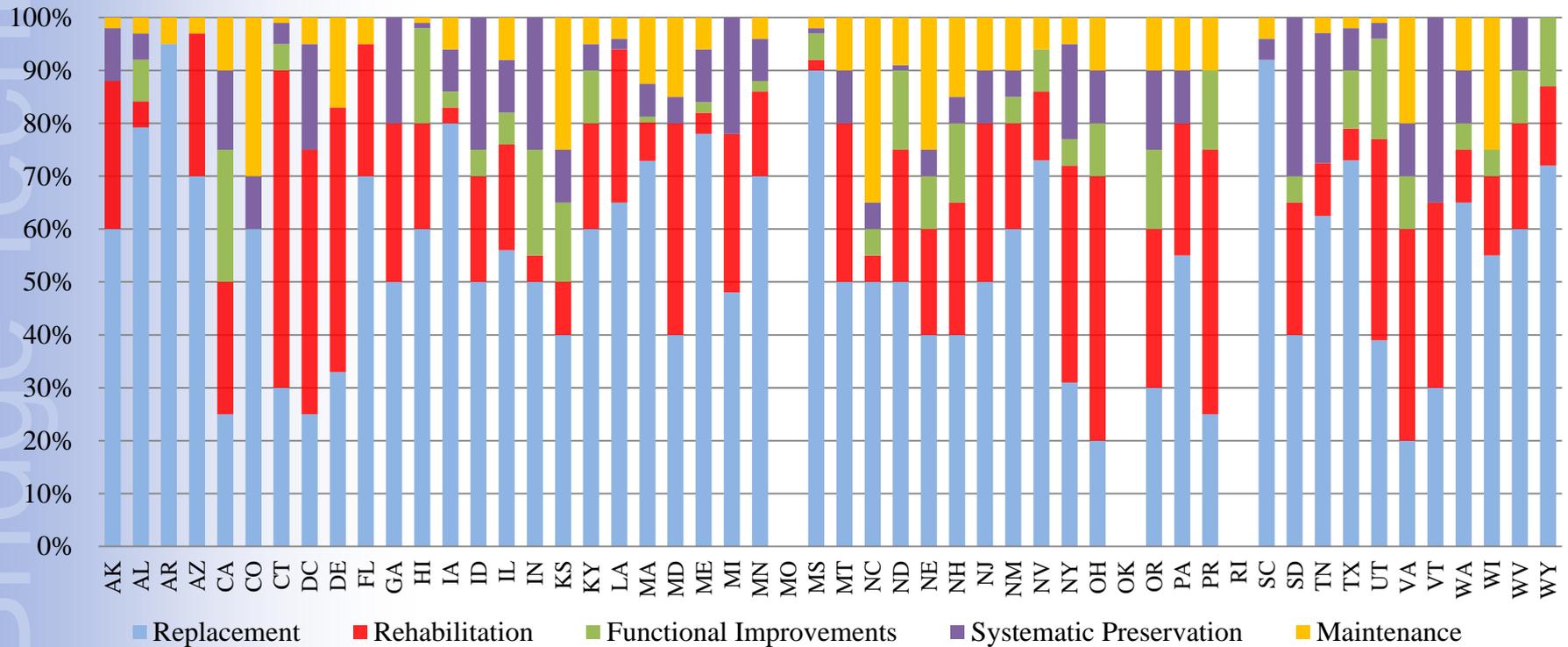


Q21. Which staff contribute to the BMS operation on an ongoing basis?

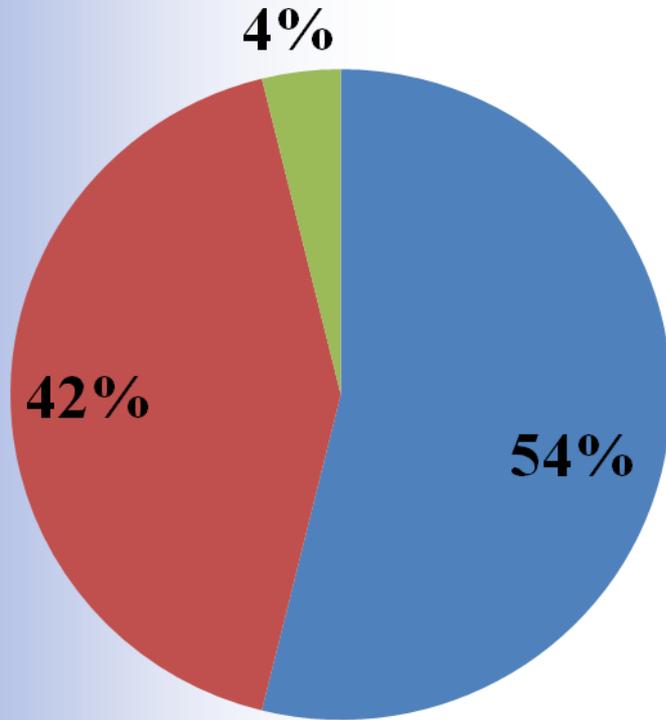
Staff Contribution to the BMS Operation



Q23. What approximate percentage of total annual bridge funding (from all sources) goes toward the following: a. Replacements, b. Rehabilitation, c. Functional Improvements, d. Systematic Preservation and e. Maintenance?



Q33. Are the bridge management processes linked to transportation planning within the State?



- 28 Division Offices indicated their states processes linked
- 22 Division Offices indicated their states process not linked
- 2 Division Offices indicated their states NA, NR



Q34. What is the state's most noteworthy policy or procedure(s) that enhances quality and improves effectiveness in performing bridge management?

- good inspections, well trained inspectors, QA/QC procedures including visiting regional and local agency offices, collecting element level inspection data as well as a data base to house the data collected.



Q34. What is the state's most noteworthy policy or procedure(s) that enhances quality and improves effectiveness in performing bridge management?

- Using in-house developed programs and procedures for ranking bridges, for instance one State uses a bridge deficiency ranking process; another State uses Pontis and a Priority Formula; another State uses a decision matrix spreadsheet system;



Q34. What is the state's most noteworthy policy or procedure(s) that enhances quality and improves effectiveness in performing bridge management?

- another State is using a Post Pontis Optimizer; and another State uses a prioritization system tool to rank bridges.
- Tour of candidate structures; field review by a review team to confirm bridges in need of work.



Technical Assistance

- **State Bridge Management Processes**
 - **Share information** on states use of analytical software beyond simply collecting inspection information with Division Offices and their states



Technical Assistance

- **State Bridge Management Processes**
 - Assist states that lack upper management support, dedicated funding, appropriate staffing levels through discussions with management regarding the tangible benefits of a viable bridge management program



Technical Assistance

- **State Bridge Management Processes**
 - Promote assistance with changes that are needed to ingrain bridge management into the state's business practice
 - Marketing the benefits of bridge management



Technical Assistance

- **Benefit Cost Analysis and Life Cycle Cost Analysis.**
 - Promote the use of **economic analytical tools** and procedures to include benefit cost analysis (BCA) and life cycle cost analysis (LCCA) in bridge management **decision process**



Technical Assistance

- **Bridge Management Issues for future resolution**
 - bridge management awareness, effectiveness, and bridge management requirements,
 - Life cycle cost analysis,
 - exchanges, what other states are doing,



Bridge Management Peer Exchanges 2008 - 2011

Portland, OR 2010



Indy, IN 2010



Manchester, NH 2011



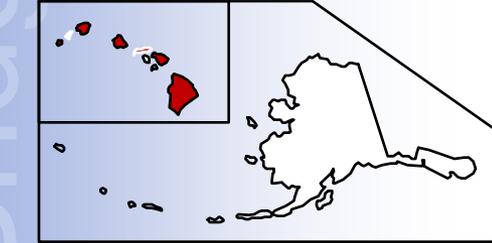
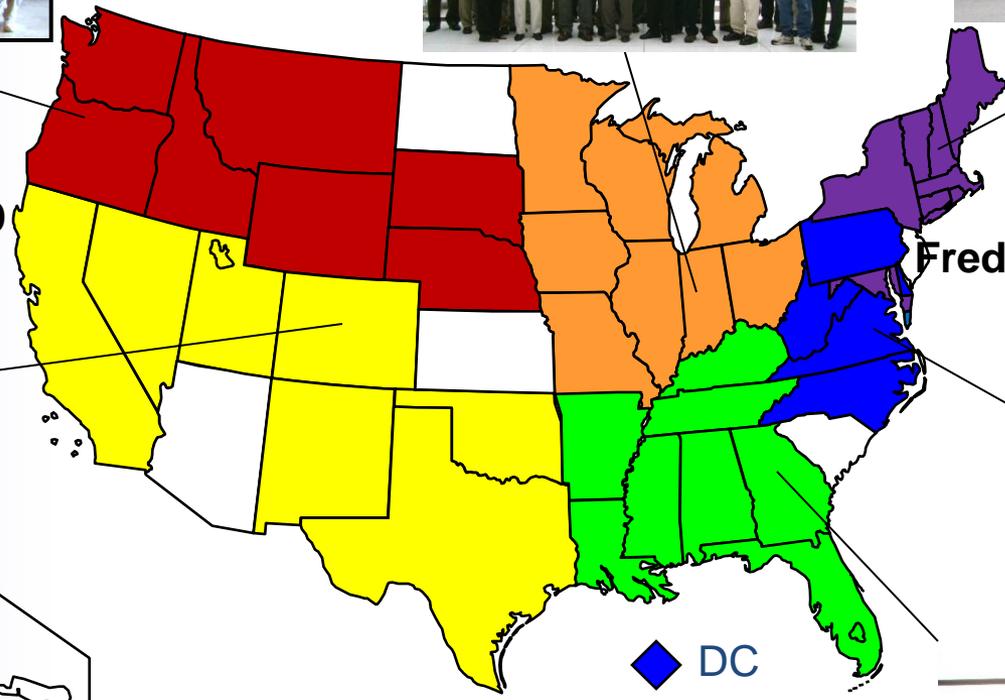
Lakewood, CO 2009



Fredericksburg, VA 2008



Atlanta, GA 2009



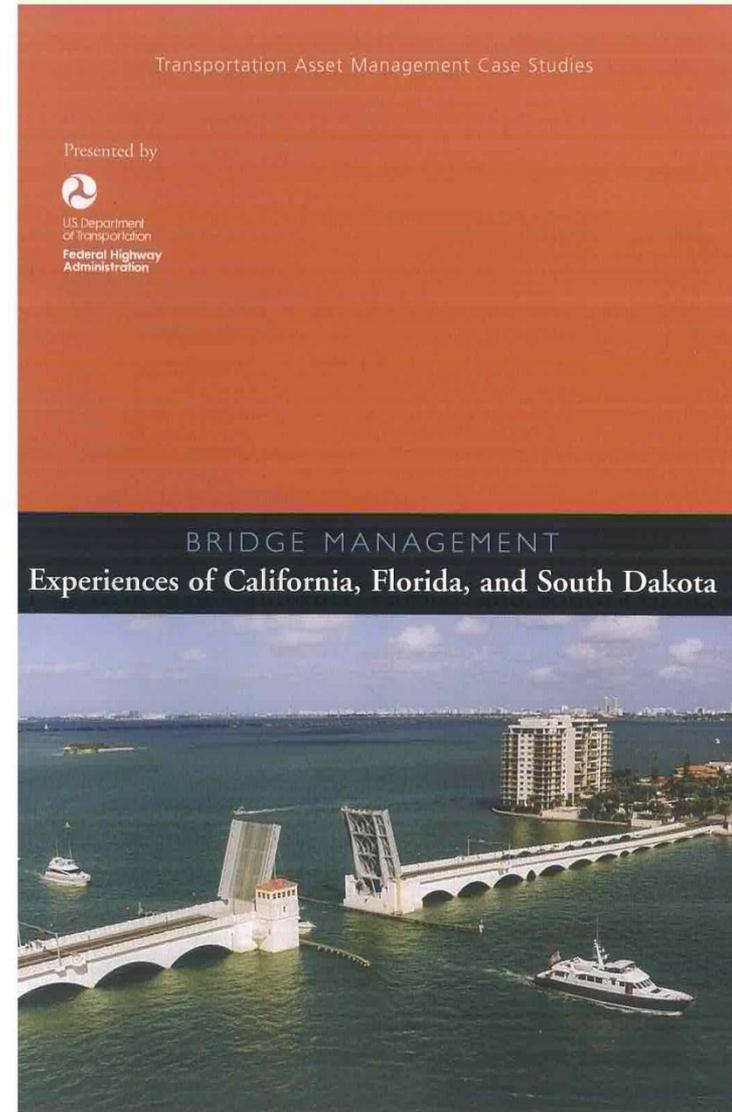
Technical Assistance

- **Bridge Management Issues for future resolution**
 - bridge management awareness, effectiveness, and bridge management requirements,
 - Life cycle cost analysis,
 - exchanges, what other states are doing,
 - case studies



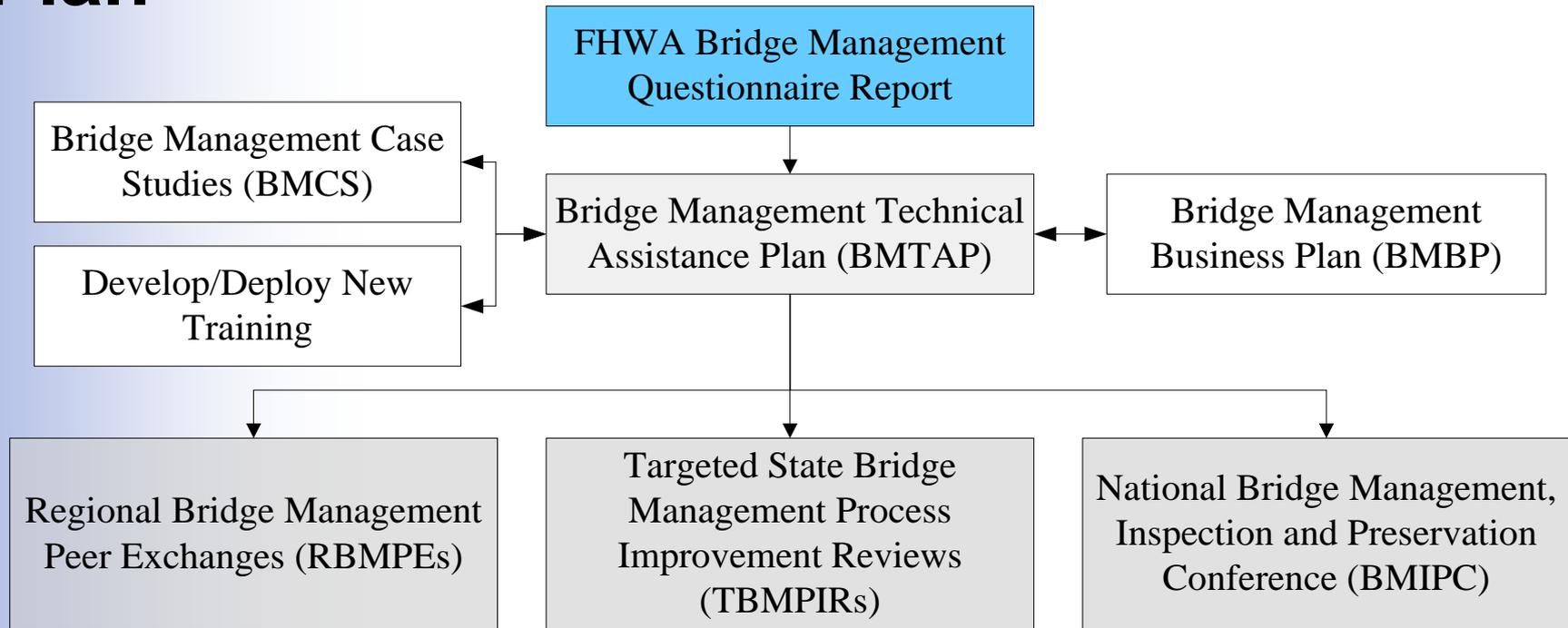
Bridge Management Experiences of California, Florida, and South Dakota

- <http://www.fhwa.dot.gov/infrastructure/asstmgt/bmcs7toc.cfm>



Technical Assistance

• Bridge Management Technical Assistance Plan



Questions?

