



Bridge Safety Inspection Quality Assurance for MDOT and Local Agencies

Presented by: Great Lakes Engineering Group

Organization of the Project Team

Michigan Department of Transportation

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Overview

● Project Purpose

- *Increase the consistency and accuracy of inspections*
- *Heighten the awareness of the National Bridge Inspection Standards (NBIS) requirements*
- *Establish a system of checks and balances on bridge inspections*
- *Assure that all aspects of the law are adhered to, at a minimum*
- *Ensure that written documentation of the history of bridge construction, maintenance, and inspection exists in an acceptable structure*

Overview

- Project Purpose

- Quality Control (QC)¹ – Procedures that are intended to maintain the quality of a bridge inspection and load rating at or above a specified level.
- Quality Assurance (QA)¹ – The use of sampling and other measures to assure the adequacy of quality control procedures in order to verify or measure the quality level of the entire bridge inspection and load rating program.

¹CFR Vol. 69, No. 239, Part 650, Subpart C – National Bridge Inspection Standards

Overview

- Agency-Specific Review Process
 - Field Activities at Agency Office
 - Initial Meeting with Bridge Owner and their Consultant (if applicable)
 - Determine what Quality Control Measures are in Place
 - File Reviews of a Sample of Bridges
 - Field Reviews of a Sample of Bridges
 - Closing Out Meeting with Recommendations

Table 1: Quality Assurance and Quality Control Review Breakdown

Total of Bridges in Inventory	Quality Assurance Review	
	File Review	Field Review
One to Four	1	1
Five to Twenty	2	2
Twenty One or More	10% of inventory	maximum of 5
	Quality Control Review	
	File Review	Field Review
All inventory sizes	10% of inventory	10% of inventory

Findings

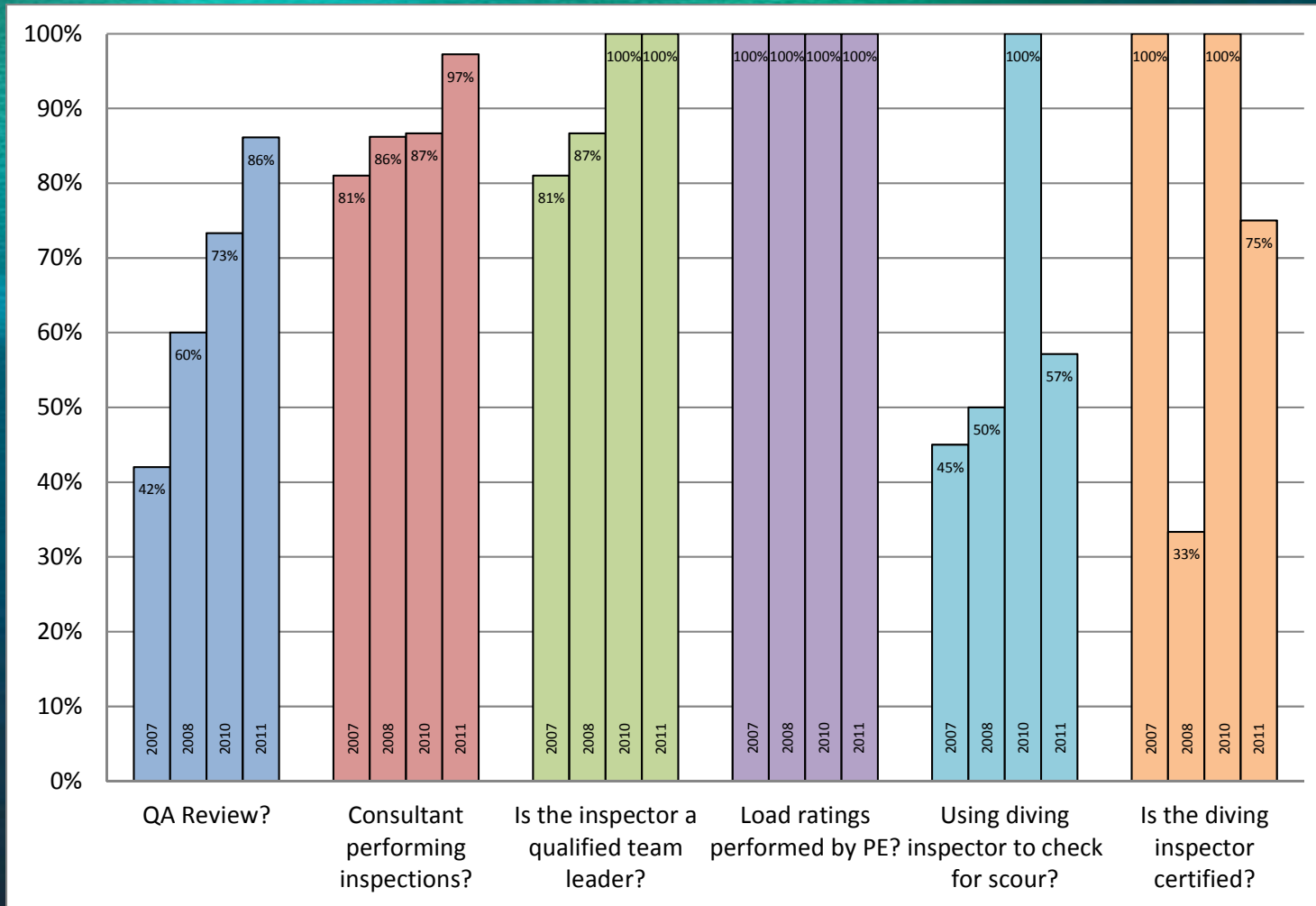
- Summary of Agency Results
 - QA Review Performed - All Required Components of the QC Program Included
 - QA Review Performed - Major Components of the QC Program Included
 - QC - Major Program Components Missing

Findings

- Tabulation and Comparison of Annual Project Results
 - Quality Control and Personnel Qualifications
 - Quality Control Process
 - Bridge File Components
 - Inspection Consistency with Established Criteria

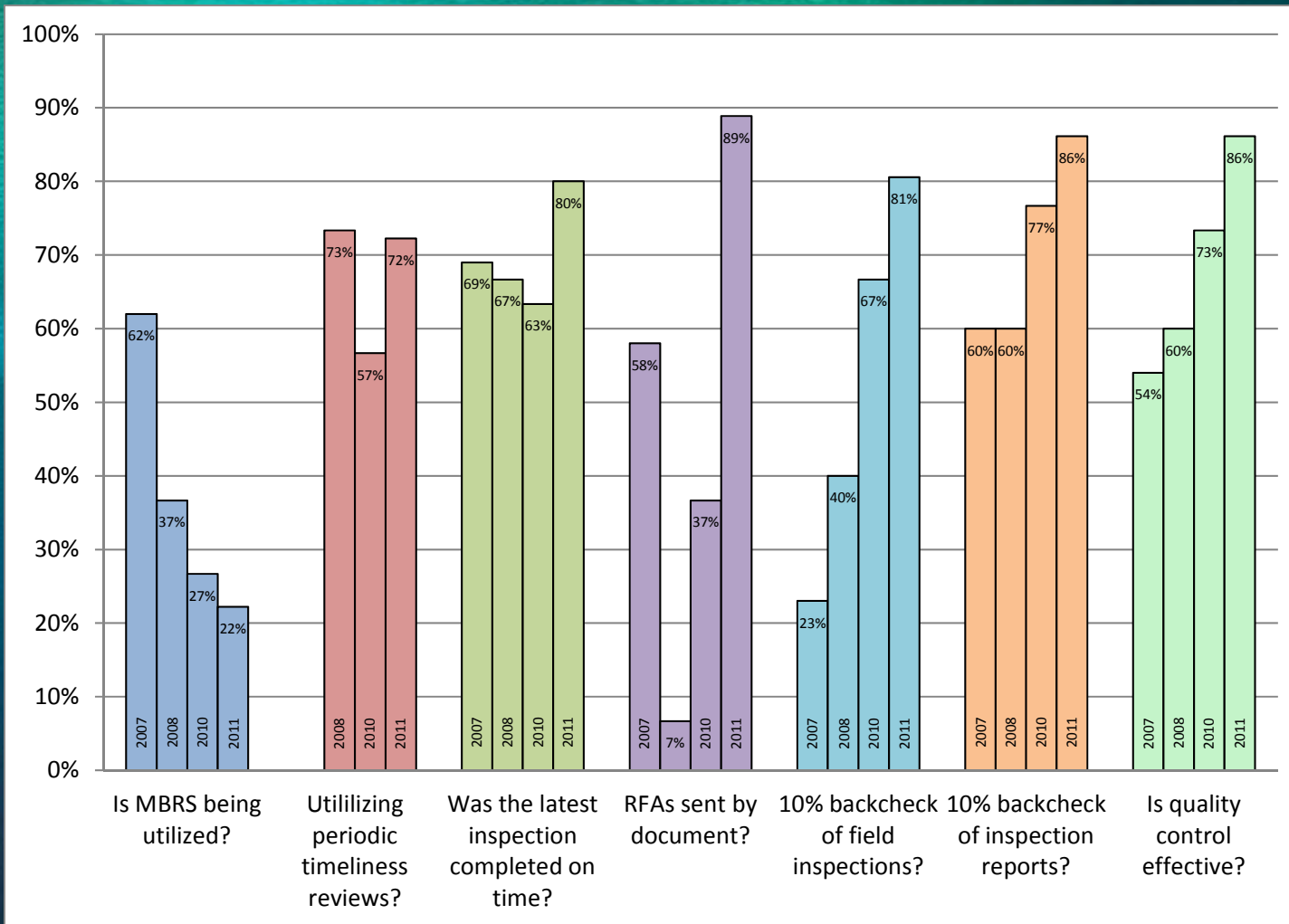
Findings

- Tabulation of Project Results
 - Quality Control and Personnel Qualifications



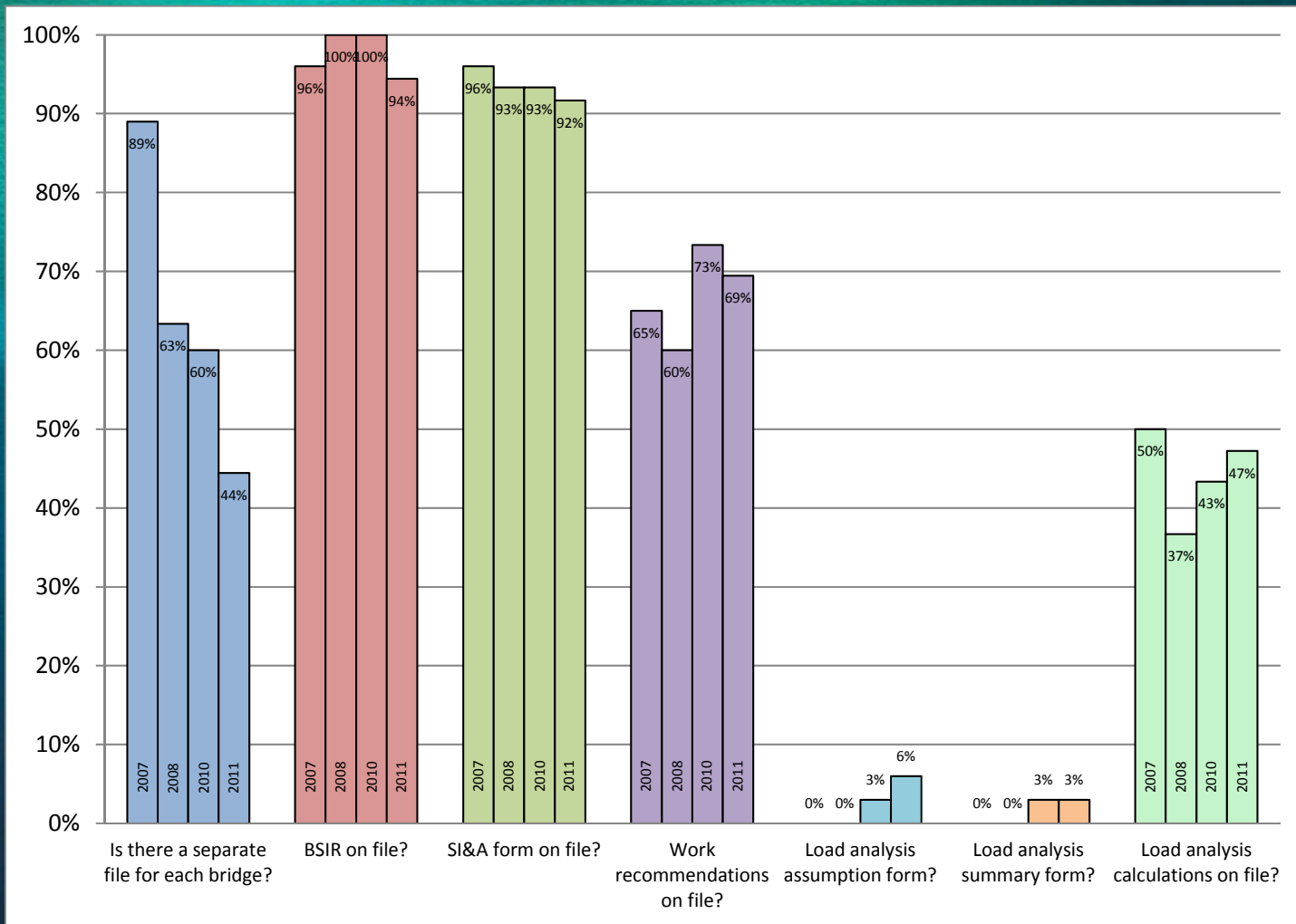
Findings

- Tabulation of Project Results
 - Quality Control Process



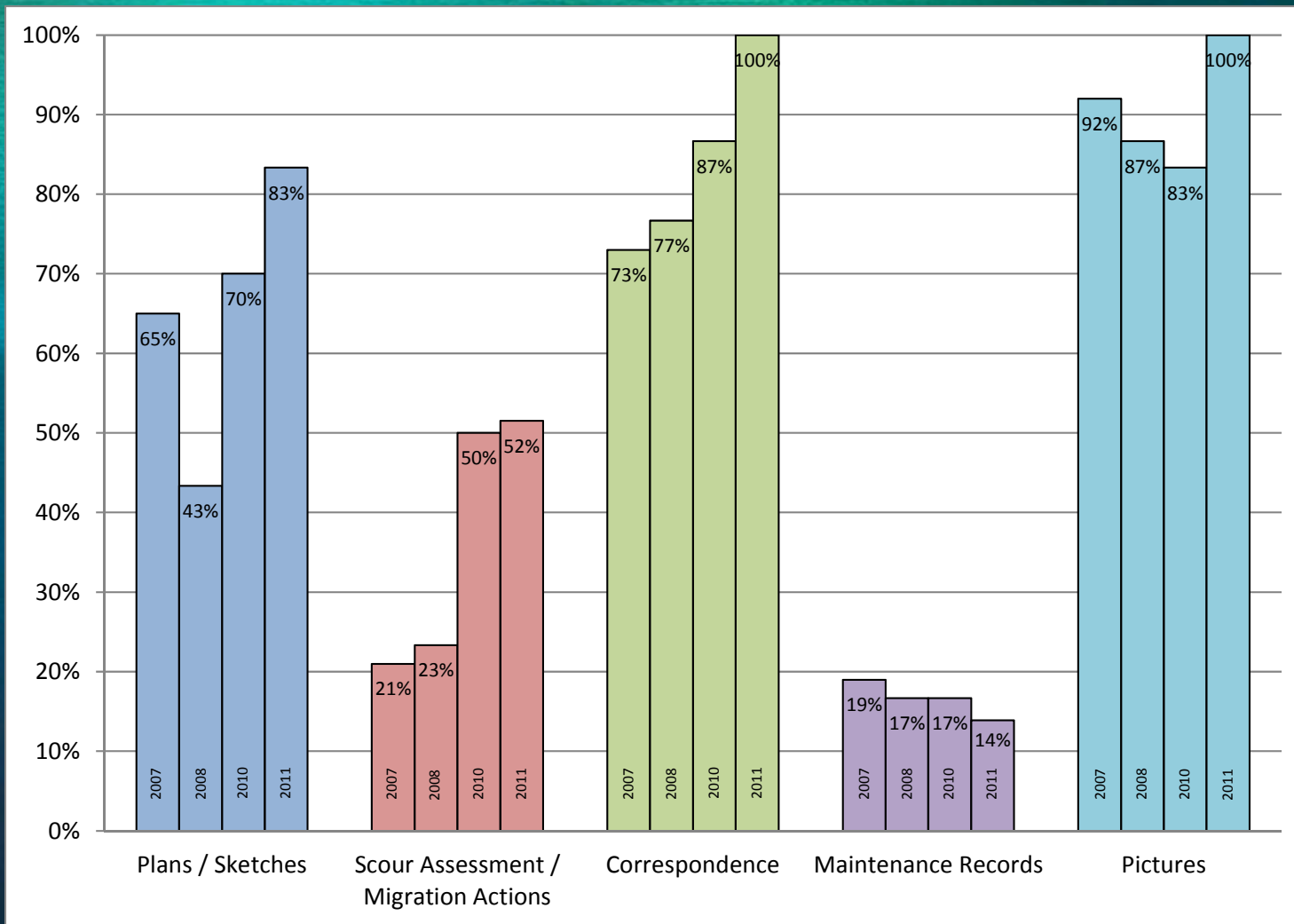
Findings

- Tabulation of Project Results
 - Bridge File Components



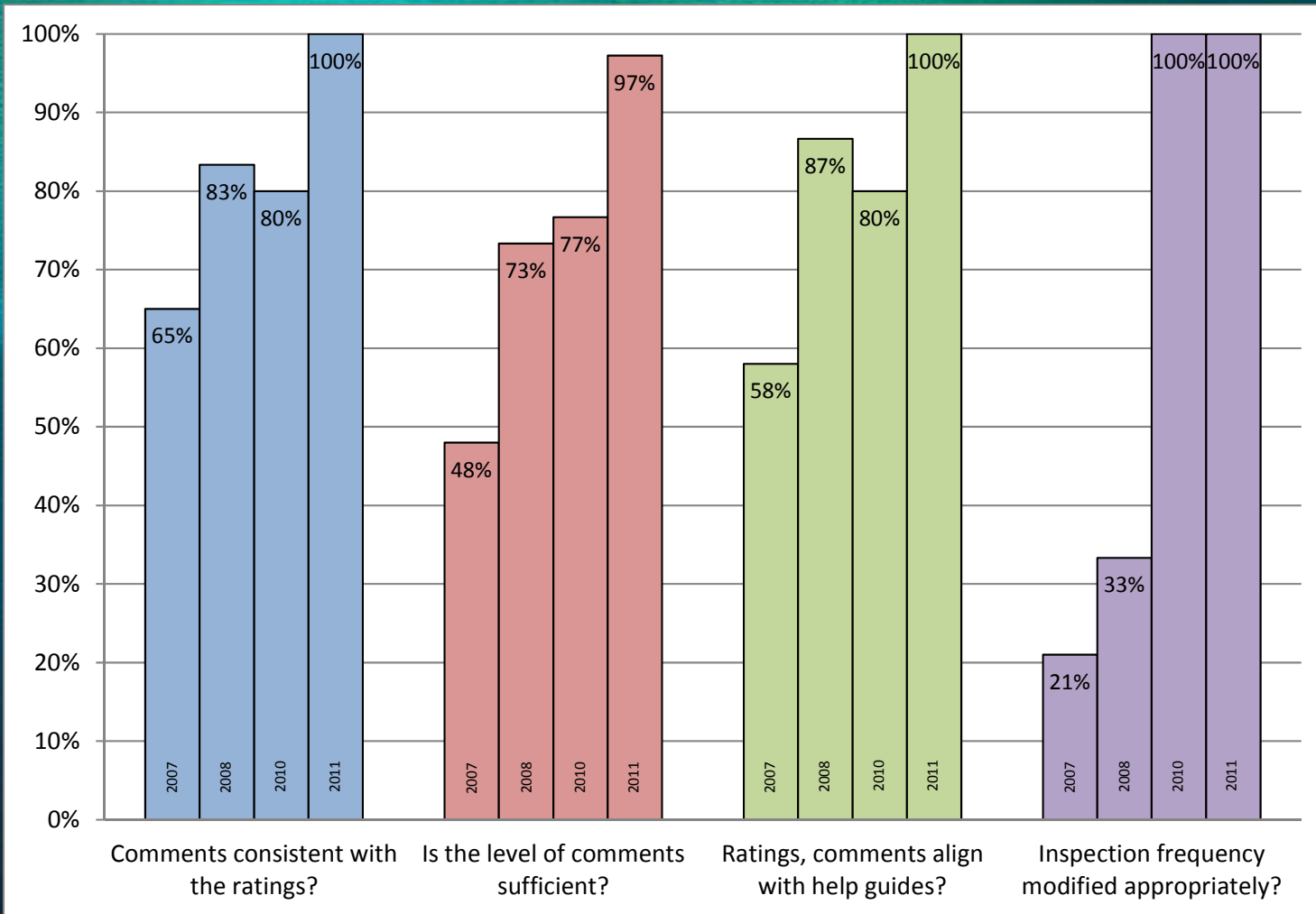
Findings

- Tabulation of Project Results
 - Bridge File Components



Findings

- Tabulation of Project Results
 - Inspection Consistency with Established Criteria



Summary (tips for Bridge Owners & Inspectors)

- Include file and field verification as a part of QC and document
- Adjust bridge inspection frequency when needed, in accordance with guidelines, and document
- Complete load ratings, and scour assessments (manage your Scour POA) and document
- Include maintenance records, critical findings and inspector credentials in the bridge files
- Completing underwater bridge inspections using a qualified team



Recommendations

- Communication
- Continuing Education & Technical Awareness
- Updates to Reference Guides
- Evaluation of the MDOT Inspection Notification System
- Annual Calibration Meeting
- MDOT Bridge Inspection Manual including QA/QC Guidance



Questions and Discussion

