



GRS-IBS and the ABC PBES Superstructure

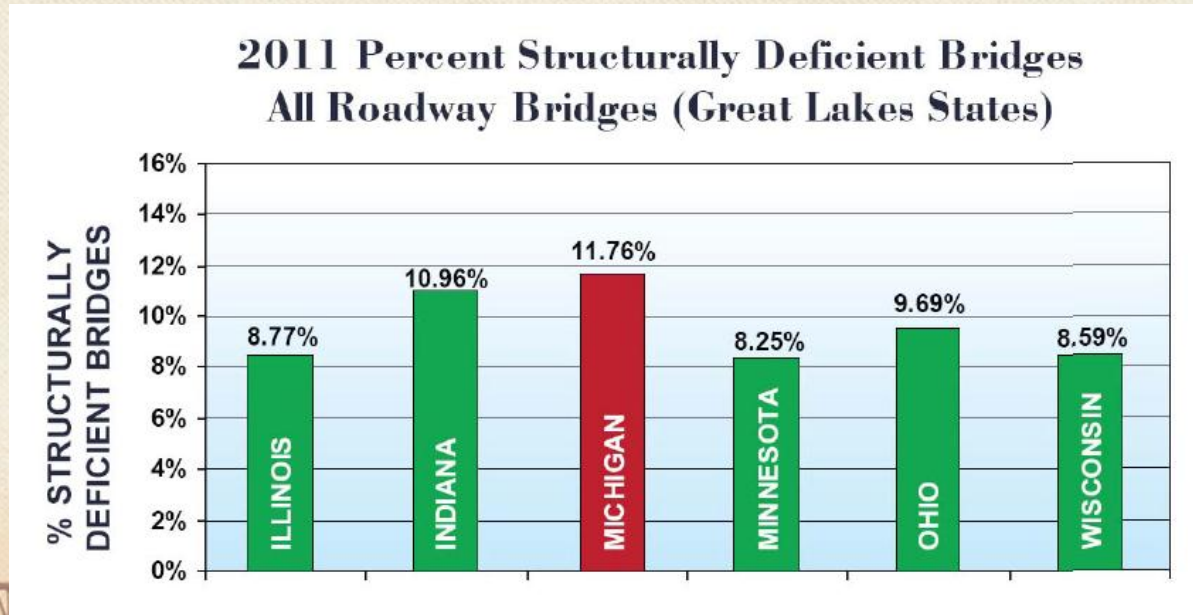
Dave Juntunen, PE, Michigan Department of Transportation
Bridge Development Engineer

2013 County Engineers Meeting, Sault Ste. Marie
February 13, 2013

Challenge – Improve Local Agency Bridges

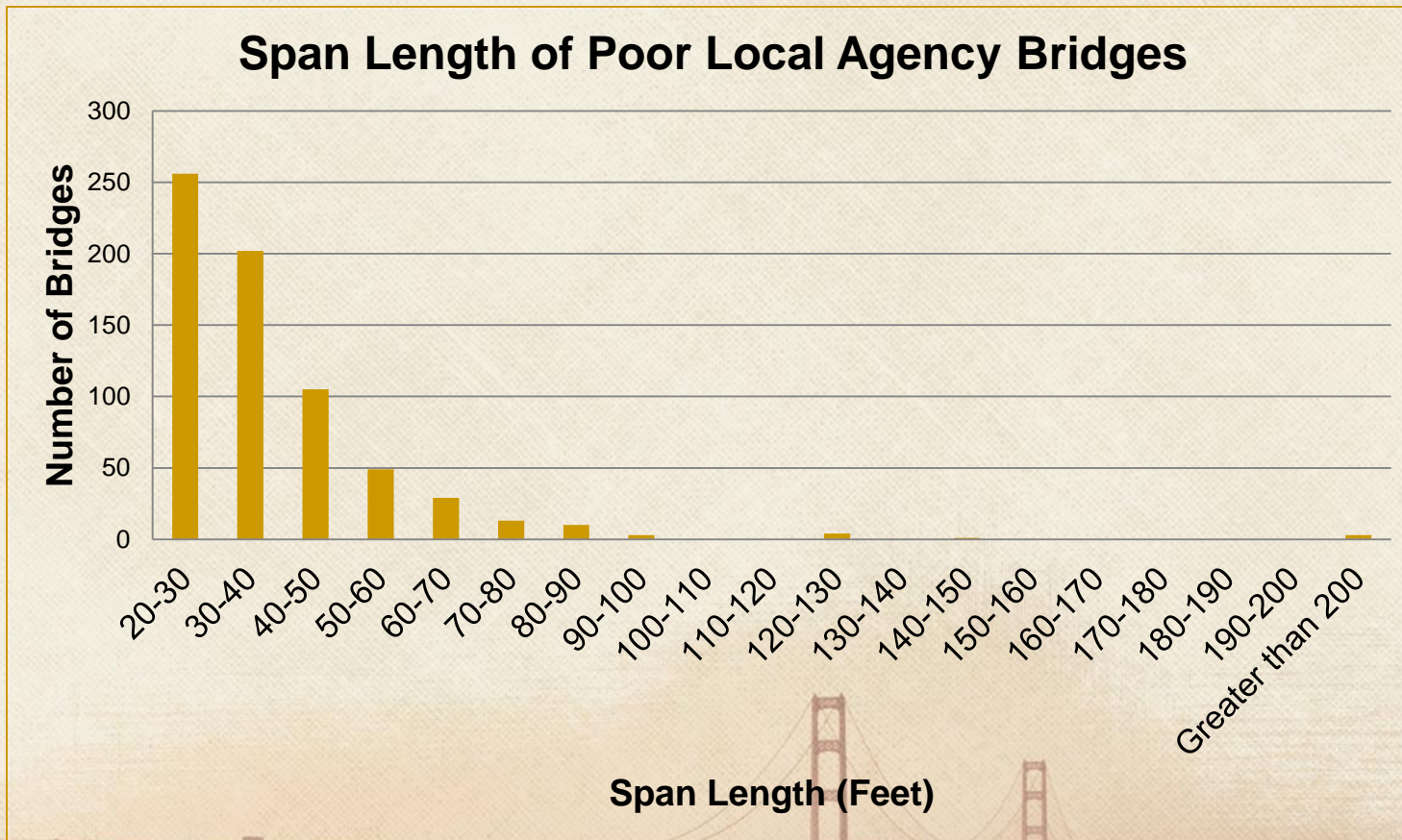
■ Local Agencies

- Structurally Deficient Bridges > 1000
 - 556 Poor Bridges
 - 459 Serious and Critical

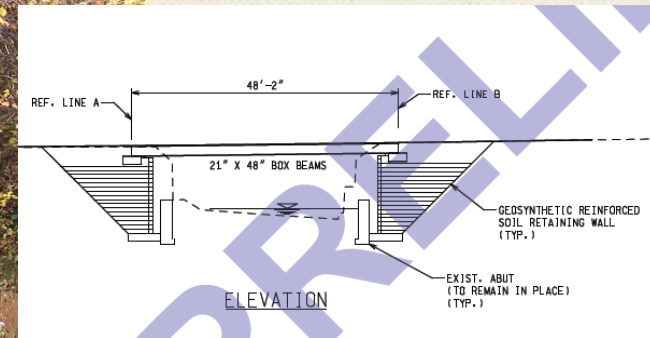


Local Agency Bridge Replacement Needs

675 Single Span Poor Bridges



Michigan's First Demonstration of the GRS-IBS Bridge – Keefer Hwy over Sebewa Creek



Williams & Works
engineers . planners . surveyors *a tradition of service*

616.224.1500 phone . 616.224.1501 facsimile
549 Ottawa Ave NW . Grand Rapids, MI 49503



Why Accelerated Bridge Construction ?

FHWA Partnership

- Every Day Counts (EDC)
 - Goal: ***Exceed 25% of bridges constructed/reconstructed with Federal Aid to incorporate at least one Accelerated Bridge Construction (ABC) or major precast component.***
 - Develop experience with Bridge Moves.



Prefabricated Bridge Elements and Systems

- What are **P**refabricated **B**ridge **E**lements and **S**ystems?
 - Structural components that are built offsite.
 - Include features that
 - Reduce the onsite construction time
 - Reduce mobility impacts
 - Built off of the Critical Path
 - Often times built under controlled environmental conditions

Source: FHWA

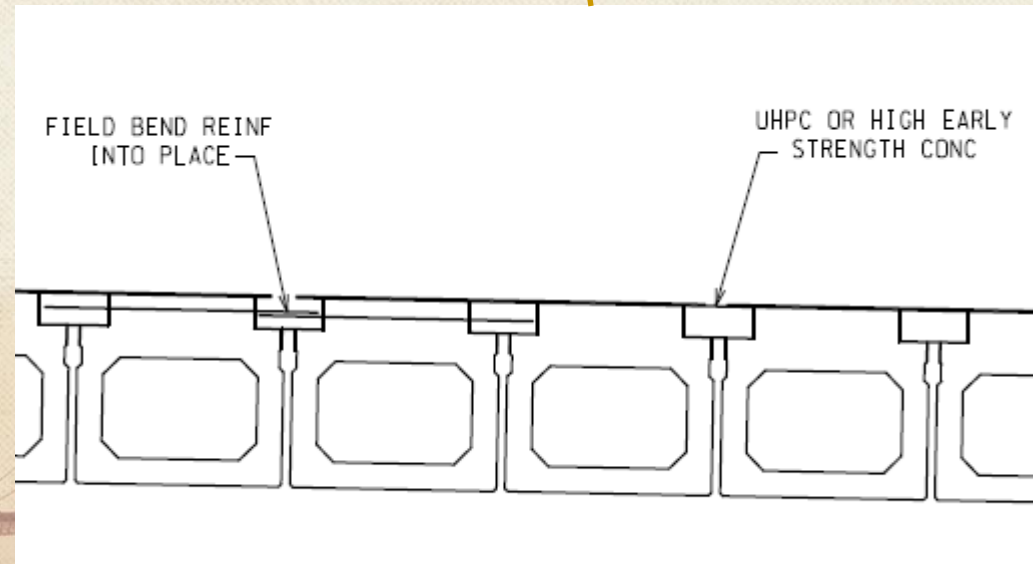
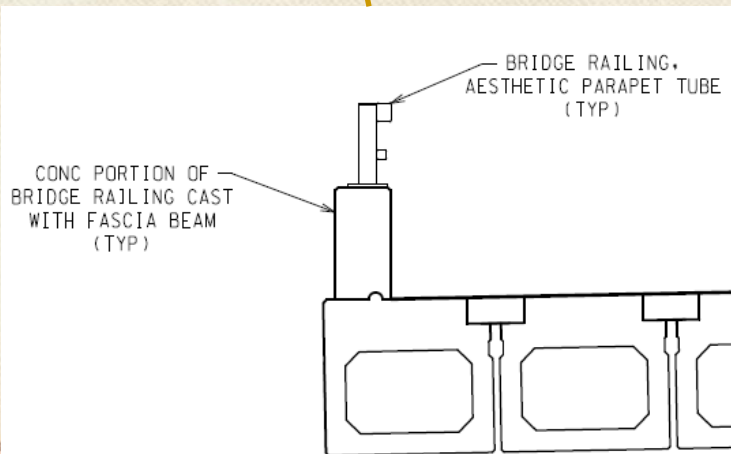
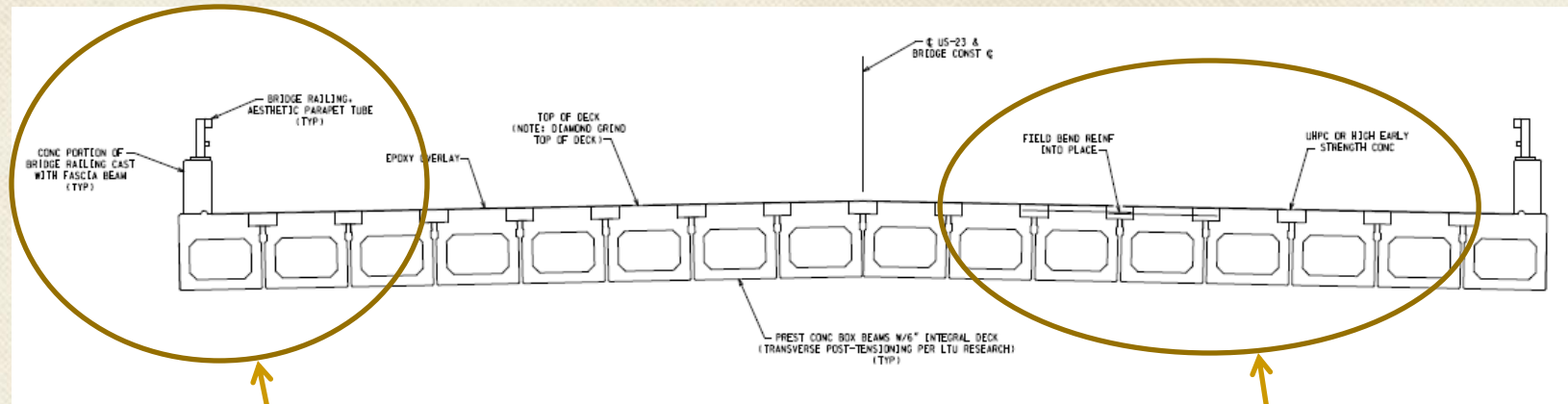


MDOT's Past and Present with ABC/PBES

- Parkview Avenue over US 131 - 2008
- US 31 BR over White Lake - 2011
- M-25 over the White River - 2011



Standardized (Pre-Engineered) Superstructure for GRS-IBS



Next Steps and Challenges

- Design and build demonstration projects
 - MAP-21, Section 1304, “Innovative Project Delivery Methods,” – “Federal share payable may be increased by up to 5 percent”
- **Form MDOT/CRAM/MML Team to:**
 - Provide guidance to develop a standardized (pre-engineered superstructure to be coupled with the GRS abutments
 - Provide guidance to develop special details, bridge design guides, and standards
 - Provide guidance to develop stream armoring to protect the GRS Abutments which are shallow foundations
- **Successfully Build Them!!**