REQUESTS FOR ACTION (RFA)

MDOT Bridge Field Services & Bridge Development
Corey Rogers - Engineer of Bridge Field Services (517-322-3320)
Dave Juntunen – Engineer of Bridge Development (517-749-8036)
Priority Level 1 - Emergency

- Severe section loss in steel beams/H-bearings
- Structural cracks in primary load carrying members
- Pin and hanger corrosion
- Concrete spalling on PCI beams
- Excessive loss of bearing area under bearings or at abutments
Priority Level 2 - Critical

- Severe section loss non-adjacent beams
- Required structural strengthening based on unsatisfactory load rating
- Moderate spalls or cracks below bearing assemblies at piers/abutments
- Concrete spalling PCI beams, non-adjacent
- Excessive bearing tilt
Priority Level 3 - Primary

- Non active diaphragm cracks
- Minor spalling under bearings at piers or abutments
- Missing bolts on diaphragms/cross frames
- Beam end with active corrosion – 15%
Temporary Supports
Data Trends – Past 18 Months

- Priority Level 1 is the Priority
  - Level 1 – Emergencies being addressed through Statewide Crew and Emergency Contracts (Maintenance and Design)

- Priority Level 2 and 3 Increasing
  - Level 2 and 3 requests are outpacing the repairs

- Load Rating and Inspections process keeping up (FHWA requirement)

- Concrete and Steel Repairs Not Being Addressed
  - Focus is on temporary supports to ensure safety quickly and economically

- Priority Level 2 and 3 not in the Bridge Program
  - RFA Committee typically rates a “2 or 3” a Level 4 if in the program with increased inspection frequency to monitor condition
Common Causes Priority Level 1 and 2

- Concrete deterioration under bearings at pier caps
- Concrete spalling under bearings at abutments due to pavement growth
- Deterioration of concrete beam ends due to failed expansion joints
- Steel beam end corrosion
Pier Cap Deterioration

Concrete Beam End Deterioration

Pavement Growth Induced Abutment Spalls

Steel Beam End Deterioration
Current Repair Options

- Statewide Bridge Repair Crew - $1 million operational budget
  - Immediately to 3 week turnaround time*

- Emergency Temporary Support Contracts - $500k (2015) and $1 million (2016)
  - 3-4 week turnaround time

- Special Needs Design Contracts - $3 million
  - 3 month average turnaround time

- Bridge Priority Preservation Fund - $10 million (2017)
  - 2 year program
  - Separate letting for programming process

- Programming Process
  - 3 to 5 year call-for-projects program

* Turnaround refers to time from repair decision at RFA Committee to beginning field work.
2015 Efficiencies

- RFA Committee and RFA Whitepaper revisions
  - *Process is working in that repair needs are being recognized and communicated*
- New Position to assist with emergency design and contracting cradle to grave oversite (inspection, scoping, contracting, design, field installs/special inspections)
- Creation of Temporary Support Left In-Place specification for contract work
  - *Temporary support may be left in-place for up to 5-6 years if not programmed*
- Continual upgrading of MiBRIDGE (NBI/Pontis/RFA tracking) to foster tracking or Priority Levels and RFA submittals
- Partnership with contractors (association) in establishing emergency bidding procedures and construction
### MiBRIDGE RFA Dashboard

#### Request For Action Dashboard

<table>
<thead>
<tr>
<th>Request For Action (RFA) Summary</th>
<th>Count</th>
<th>Current Priority Level</th>
<th>In Progress</th>
<th>Complete</th>
<th>Reviewed by Committee</th>
<th>Not Reviewed by Committee</th>
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#### Intermediate Action Type

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Temporary Support Locations/GIS
Emergency Contract Temp Supports

- Collaborative effort between the following:
  - Central Maintenance/Design
  - Special Structures
  - Reachall Crew
  - Bridge Repair Crew
  - Regions
  - CFS – Ground penetrating radar
  - Contractors
Future Strategies

- Focus on repairs versus Temporary Support Left-In-Place when possible
  - Current project underway on 496 to test the theory that concrete repair costs are on par with Temp supports
- Emphasis on expansion joint replacement and pavement relief joints
- Use epoxy coated, stainless steel or carbon fiber shear stirrups for prestressed concrete beams
- Continued programming focus on poor bridges and those with current temporary supports
- Continue to improve bridge designs to prevent water/chlorides from reaching beam ends
- Continue to work within Region MOT to address critical bridge needs without impacting traffic
- Continually update the RFA Whitepaper and provide guidance to bridge inspectors related to RFA process