AASHTOWare Bridge Update

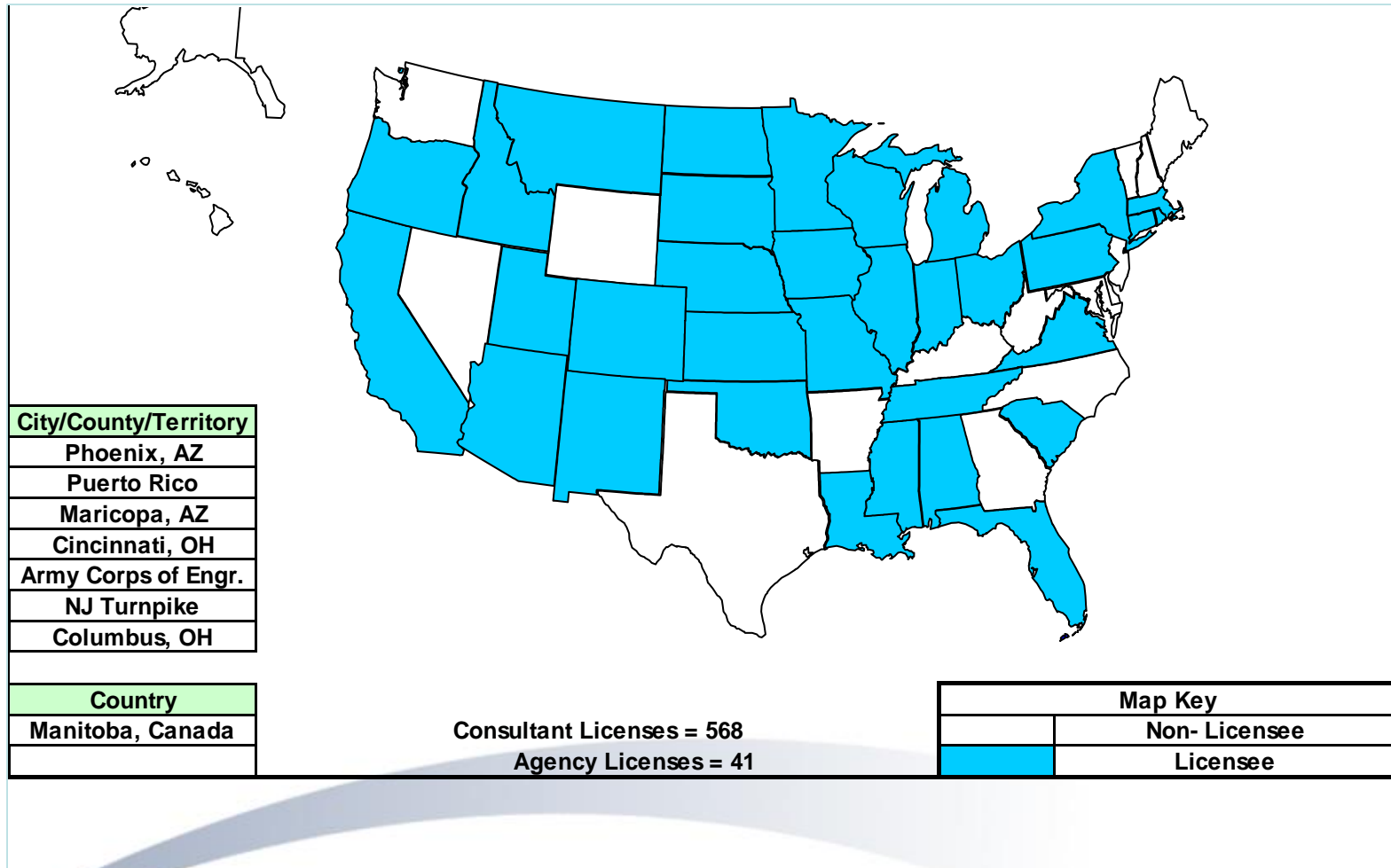**Todd Thompson, PE. Chair**

August 15, 2017

Kansas City, KS

Agenda

- Bridge Rating and Design Update
- Modernization Update – later this morning
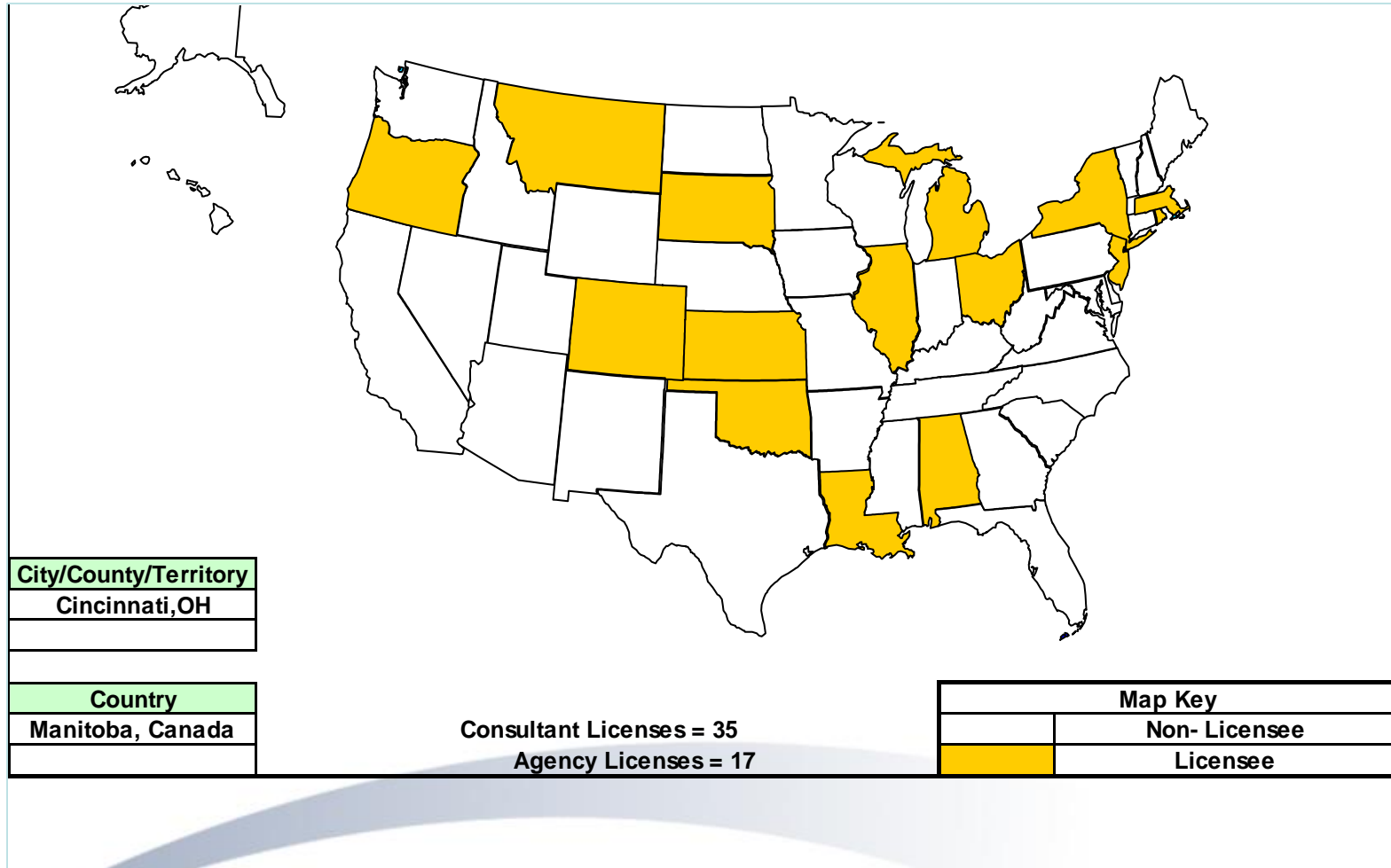- Task Force Membership

AASHTOWare Bridge Rating

Current Participation (FY 2017 ending June 30)

City/County/Territory
Phoenix, AZ
Puerto Rico
Maricopa, AZ
Cincinnati, OH
Army Corps of Engr.
NJ Turnpike
Columbus, OH

Country
Manitoba, Canada

Consultant Licenses = 568
Agency Licenses = 41

Map Key	
	Non- Licensee
	Licensee

AASHTOWare Bridge Design

Current Participation (FY 2017 ending June 30)

City/County/Territory
Cincinnati,OH

Country
Manitoba, Canada

Consultant Licenses = 35
Agency Licenses = 17

Map Key	
	Non- Licensee
	Licensee

Releases since last year

- 6.8.1 – October 2016
  - Load Rating Tool

 - Bridge Copy/Delete/Replace utility

  - Regression Comparison Tool

Rating Tool – Phase 1

- Highlights of the tool:

  - Very fast computation of rating factors using precomputed data and hardware improvements

  - The Tool can be used by permitting systems using a REST API or the Analysis API

  - BrR within the application can use the tool to compute ratings for a list of bridges and vehicles

Rating Tool – Phase 1

- Highlights of the tool (continued):

  o LFR capability

  o Steel and concrete multi-girder straight superstructures

  o LRFR, floor systems, concrete multi-cell boxes, culverts and trusses in subsequent phases (TBD)

  o Rating results exactly match the BrR results (i.e. no approximations or simplifications)

  o Customizable configuration options and pass conditions

Rating Tool – Phase 1
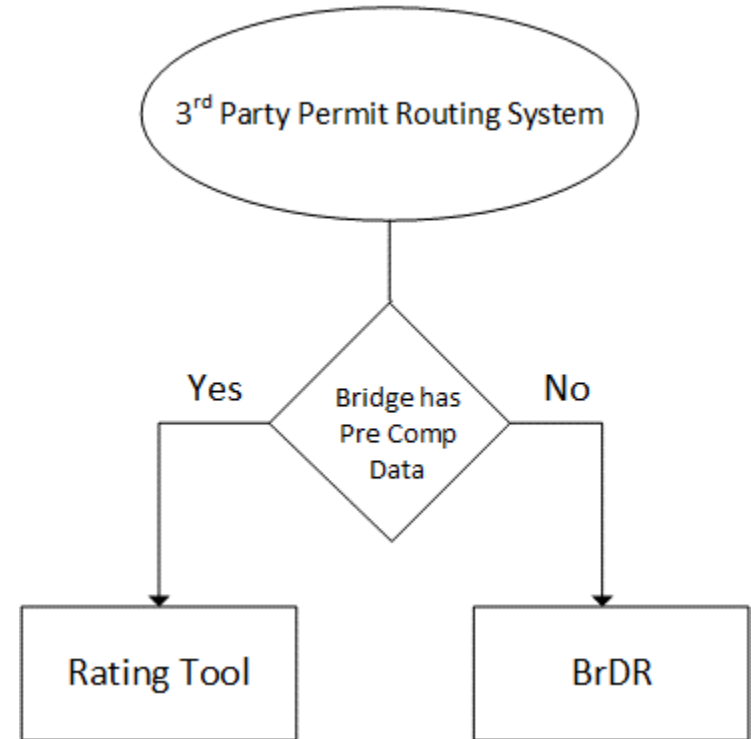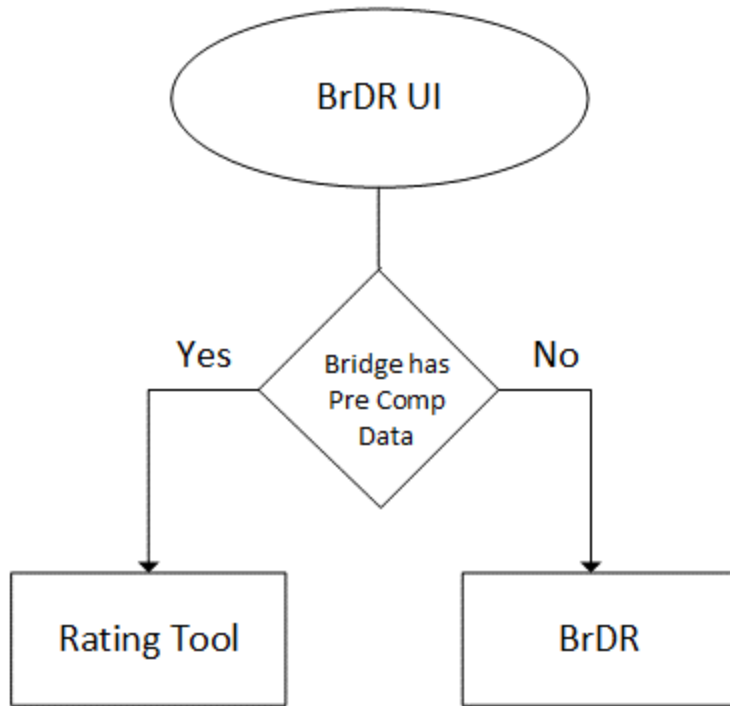
Rating Tool – Phase 1

Generate pre-computed data:

Rating Tool – Phase 1

Maintain pre-computed data:

Precomputed Data

Generate | Maintain

BID	Precomputed Data				Bridge Database				Select
	Bridge ID	NBI Structure ID	Date Generated	Generated By	Bridge ID	NBI Structure ID	Date Last Modified	Last Modified By	
1	TrainingBridge1	TrainingBridge1	05/25/17	Bridge Bridge	TrainingB	TrainingBridge1	10/12/09	BrR BrR	☐
10	Example7	Example7	05/25/17	Bridge Bridge	Example7	Example7	10/12/09	BrR BrR	☐
11	RCTrainingBridge1	RCTrainBridge1	05/25/17	Bridge Bridge	RCTrainin	RCTrainBridge1	10/12/09	BrR BrR	☐

Select All | Select Outdated | Select Not Found | Clear Selected | Update Selected | Delete Selected

Close

Rating Tool – Phase 1

Perform the analysis:

Rating Tool – Phase 1

Review the rating results:

Bridge Copy/Delete/Replace Utility

Standalone utility that enables a user to do the following activities:

1. Copy bridge definitions from one database to another database

2. Delete bridge definitions from one database

3. Replace a bridge definition in one database with a bridge definition from another database

Bridge Copy/Delete/Replace Utility

Regression Comparison Tool

- New tool to assist with regression testing of BrDR

Regression testing *is a form of testing that verifies that the work performed to add new features and capabilities did not break or inappropriately alter the existing code causing incorrect results or behavior.*

- A large part of the testing of the modernized analysis module will be regression testing

- Based on NCHRP Report 485 – Bridge Software – Validation Guidelines and Examples

Regression Comparison Tool
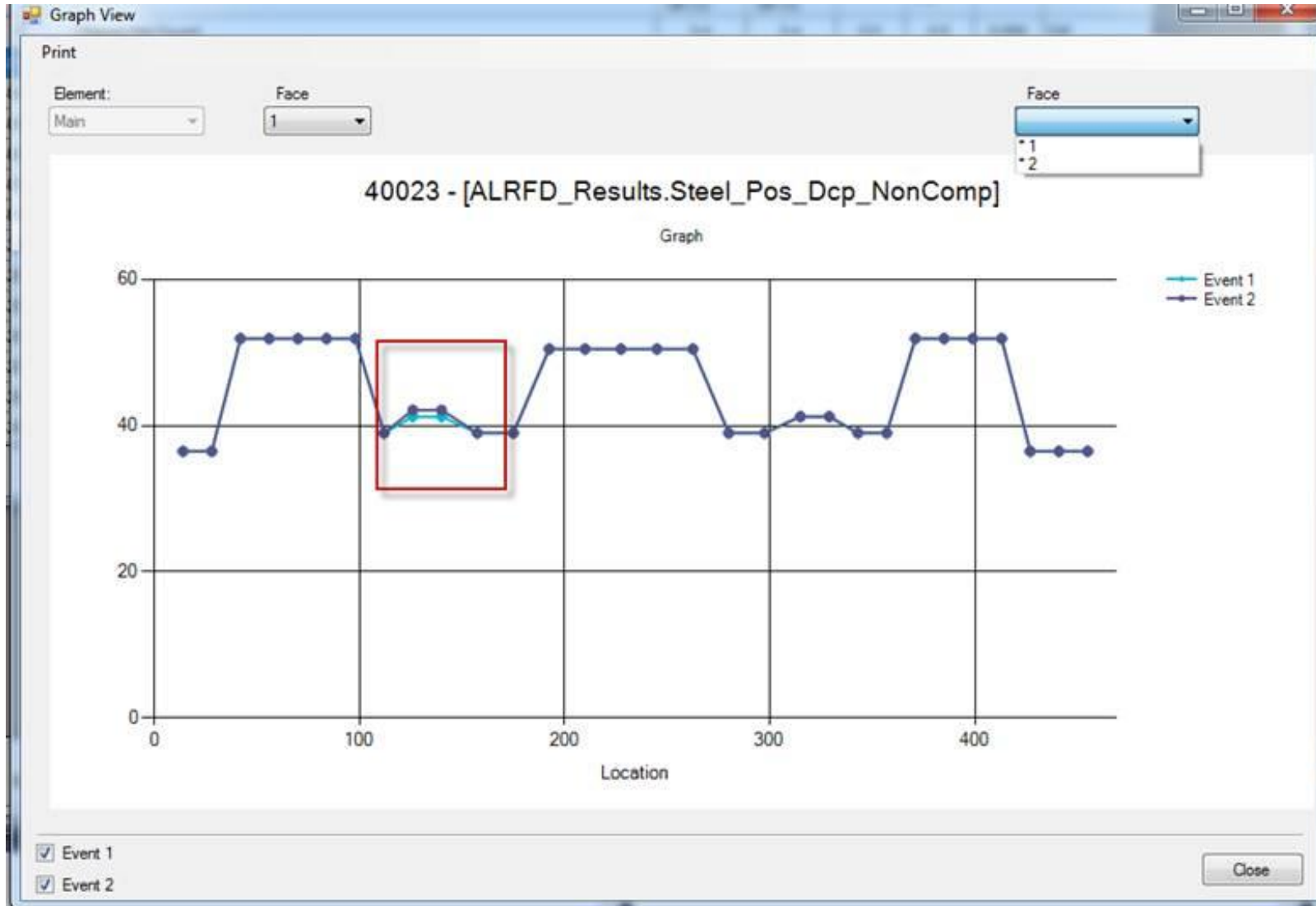
Latest Release

- 6.8.2 – early July 2017
  - Numerous Maintenance Issues

  - Updates for the latest AASHTO specifications

  - Legacy software

Specification Updates

- Updates for the latest AASHTO specifications
  - ➢ LRFD 8th Edition
  - ➢ MBE 3rd Edition

AASHTOWare Bridge Task Force

Chair	Todd Thompson	South Dakota
Vice Chair	Eric Christie	Alabama
Member – BrM	Bruce Novakovich	Oregon
Member – BrM	Craig Nazereth	Rhode Island
Member – BrM	Mark Faulhaber	Kentucky
Member – BrM	Beckie Curtis	Michigan
FHWA Liaison – BrM	Derek Constable	FHWA
Member – BrR	Joshua Dietsche	Wisconsin
Member – BrD	Jeff Olsen	Montana
Member – BrD	Dean Teal	Kansas
Member – BrR	Ping Liu	Iowa
FHWA Liaison – BrDR	Tom Saad	FHWA

Survey Results – Random

- Training Pages are outdated
  - They were all updated in 2016
- Share TF quarterly meeting minutes
  - They are posted on website
  - http://aashtobr.org/?page_id=91
- Work with other software vendors to share data
  - Working with T-19 in their effort for BIM (Bridge Information Modeling) – looking at using IFC (Industry Foundation Class) for data exchange standards

Survey Results – Random

- Reporting needs to be improved
    - Will be working on improved output and reporting.
    - Will need user support in the form of a TAG

Questions?

Thank you