Bridge Management 2017 Administrative Overview

BrMUG Meeting

Alexandria, VA

FY2016 Licensees

County/City	State
Los Angeles County	CA
City of Phoenix	AZ
Penn. Turnpike	PA
Richmond Trans Auth	VA
New York City DOT	NY
Ohio State University	OH

41 State Departments of Transportation + Manitoba, FHWA, District of Columbia & Puerto Rico

Map Key	
Non- Licensee	
	Licensee

FY2017 Licensees

County/City	State
Los Angeles Co	CA
City of Phoenix	AZ
Penn. Turnpike	PA
Richmond Metro Auth	VA

40 State Departments of Transportation + Manitoba
District of Columbia, Puerto Rico & Ohio State University

Map Key	
Non- Licensee	
	Licensee

Bridge Management Licensees (FY17)

License Type	Number of Licenses
BrM Site	47
BrM Local/Small Agency	2
BrM Educational	7

New Member Agencies Considering BrM
• Ohio Department of Transportation
• Maryland State Highway Administration
• Washington State Department of Transportation
• West Virginia Department of Transportation

Outreach / Marketing

Opportunities to expand the Bridge Management user base.

- Product presentations at numerous meetings and conferences

- Invitations extended to DOT personnel to attend Task Force meetings in their home locales

- Identifying and focusing on more than one contact within the user organizations (end user and various management levels)

- Promoting the application to member agencies (individual contacts, agency by agency) who currently are not licensees

Outreach / Marketing

- Newsletters – hardcopy for conference distribution and online for wider consumption

- AASHTOWare web site under review for redesign and update

- Incorporation of Ideas / suggestions from the BrM Community

- Culmination of the BrM 5.2 product with the release of 5.2.3

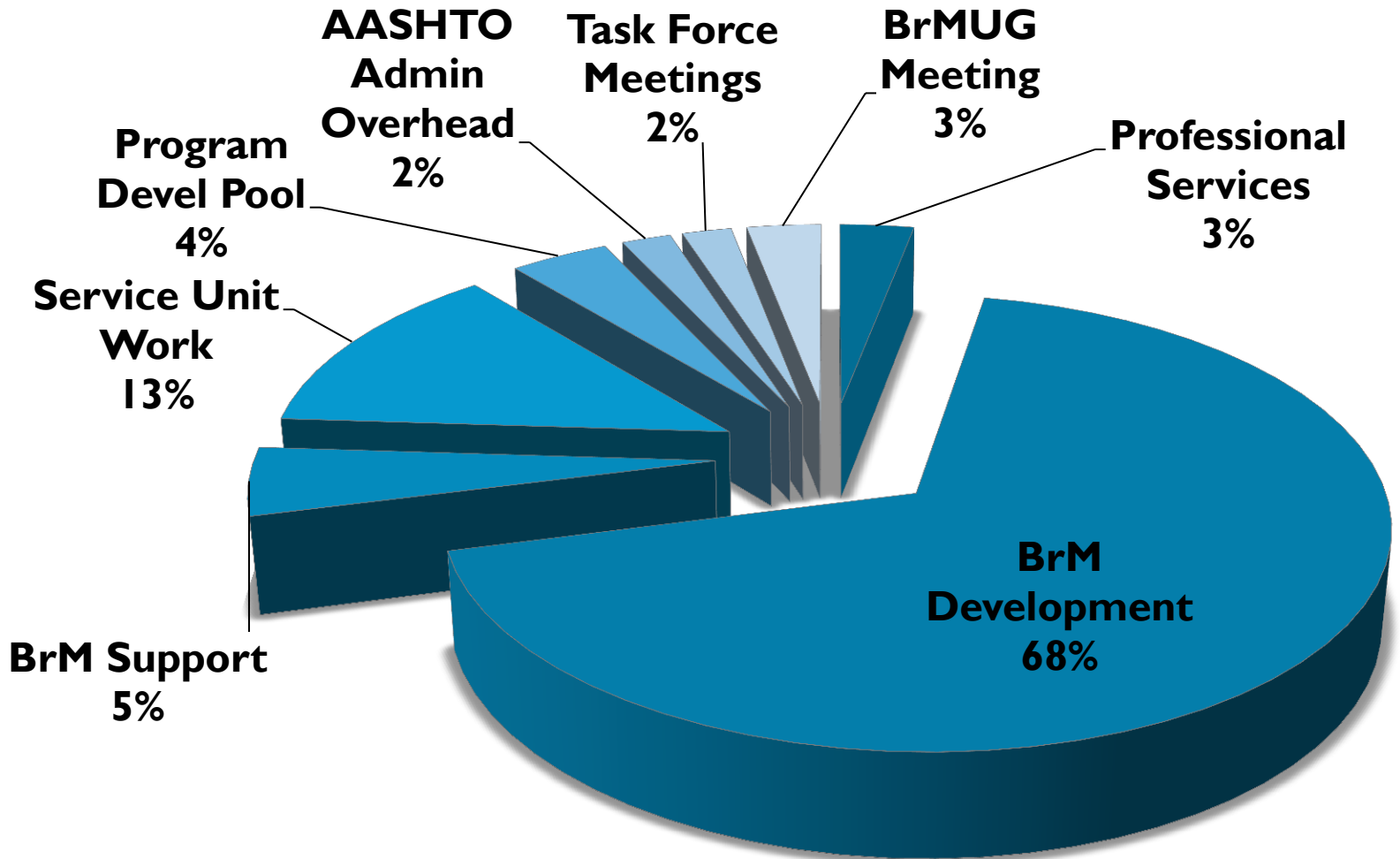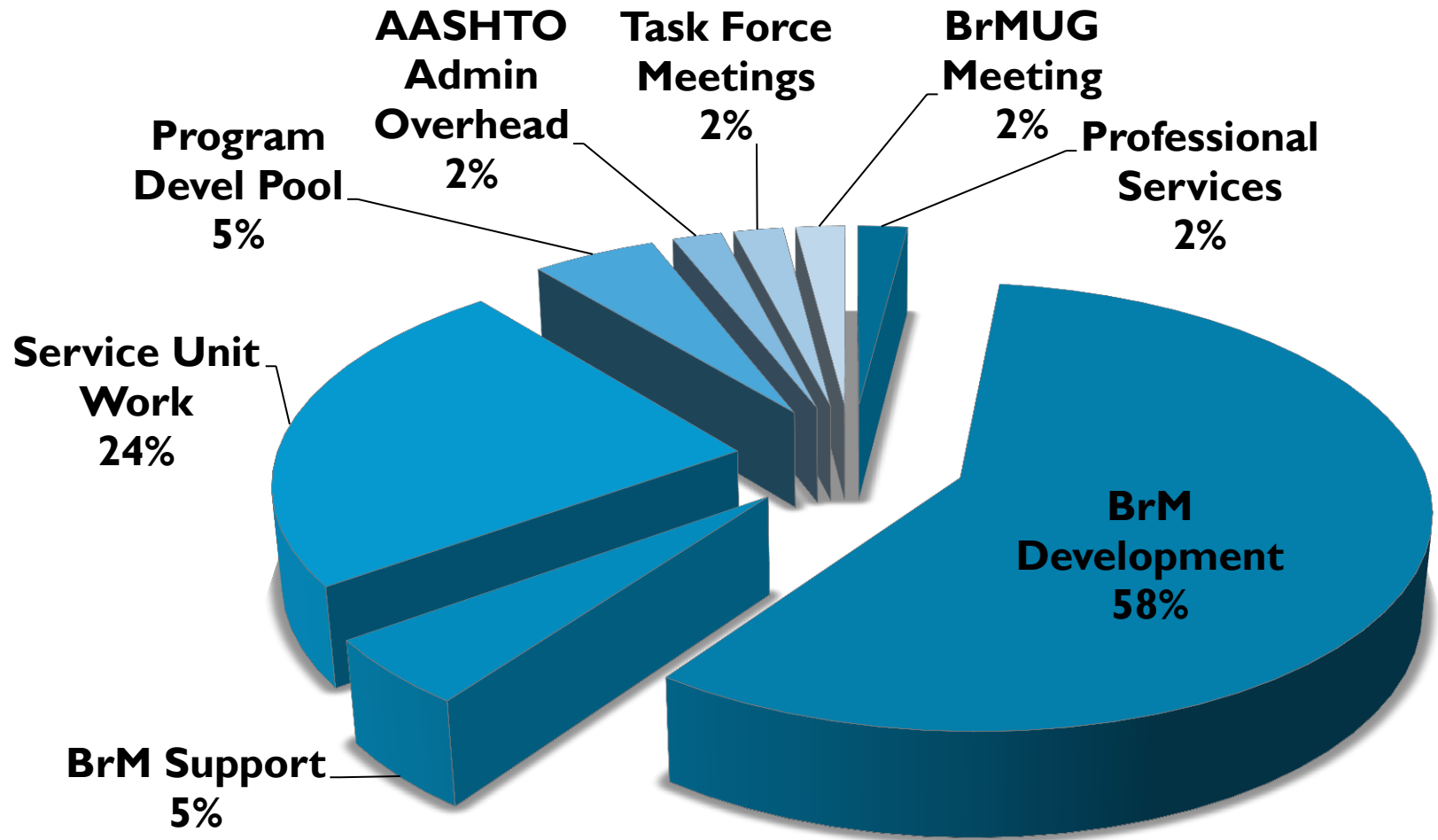- Enhancements and new features delivered with the release of 5.3

FY2016 Revenue

HAO Service Units 2.10%

Software Licenses 56.45%

Service Units 41.45%
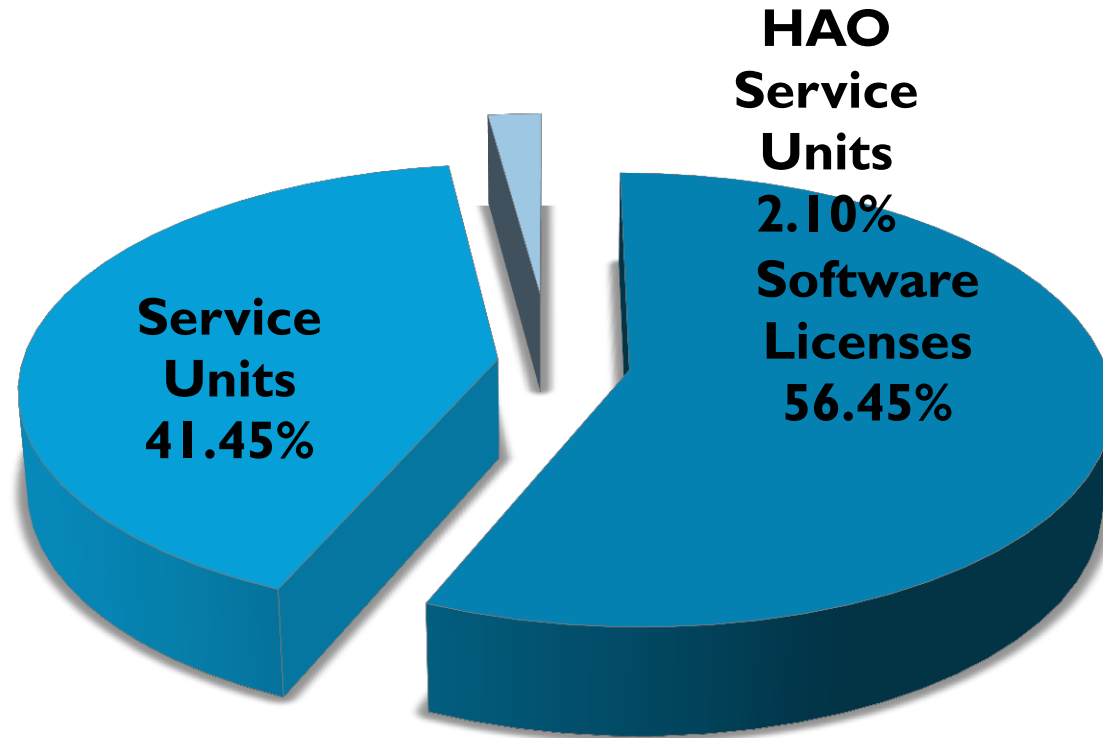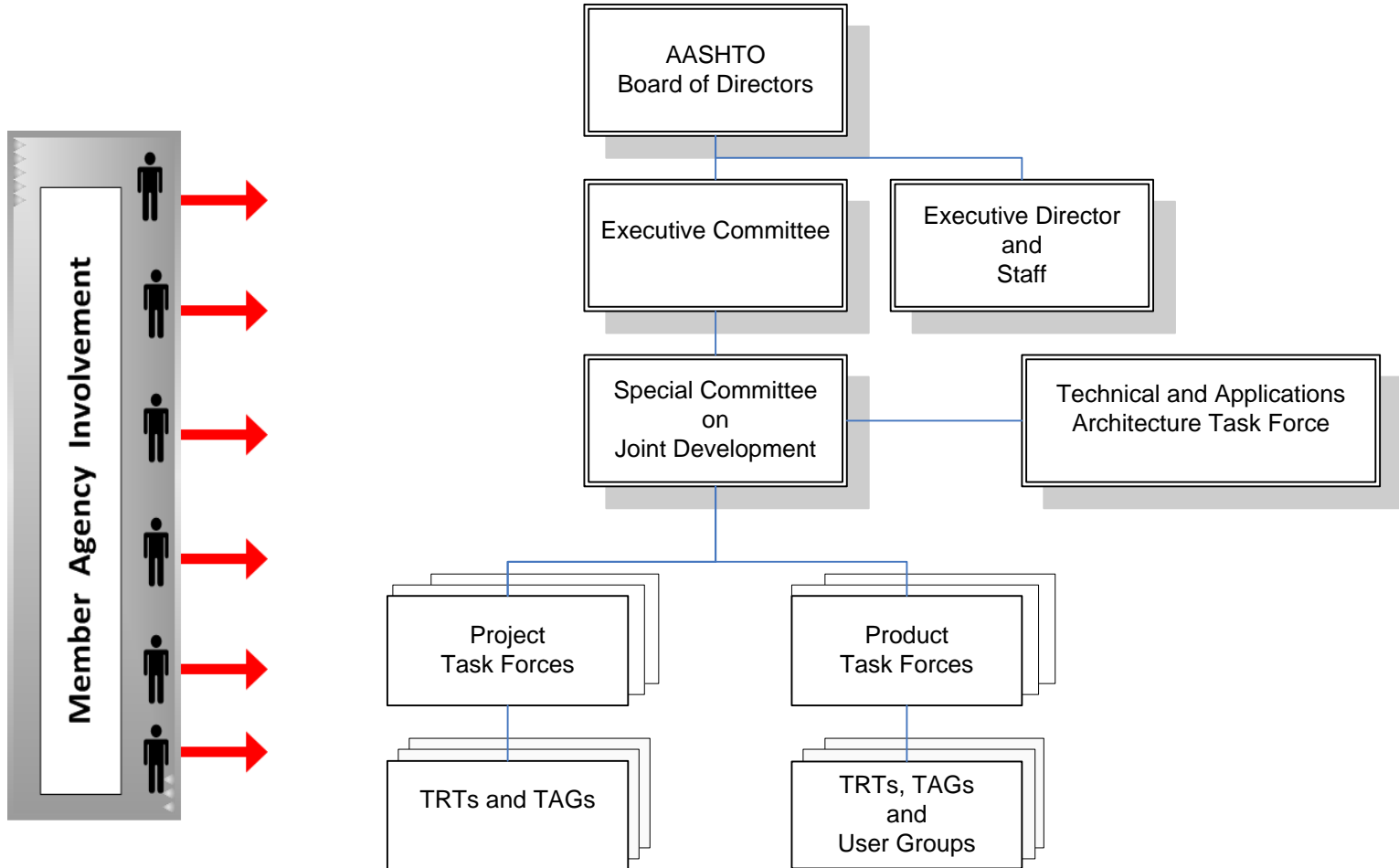
FY2017 Revenue
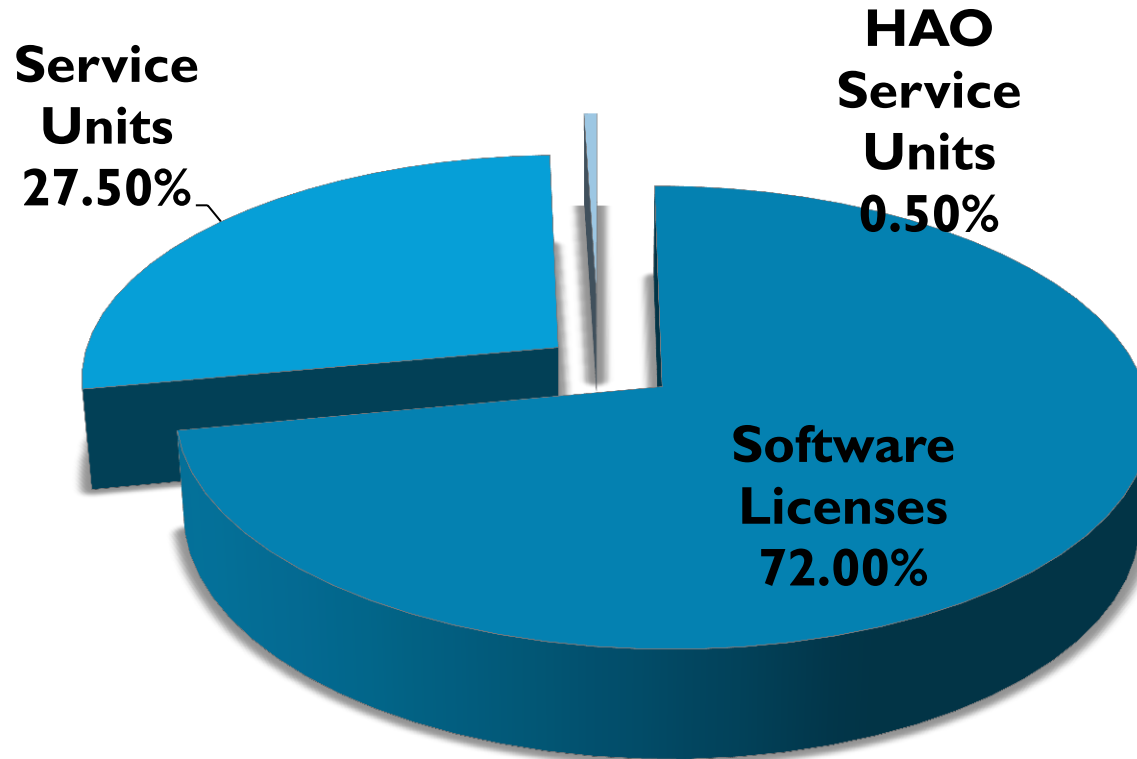
FY2016 Expenditures

FY2017 Expenditures

AASHTOWare Program Management

AASHTO Administrative Overhead

- AASHTO Administration & Overhead
  - Staff salaries, benefits, and overhead
  - Contracted Project Manager
  - Proportional share of SCOA, T&AA and indirect costs
  - Legal Services
- Technical and Applications Architecture Task Force
  - Technical resource for SCOA and product task forces
  - Develop and maintain software standards and perform QA Reviews

Why Use AASHTOWare?

- Incorporates "best practices"

- Users share solutions and costs

- License fees cover overall expenses ensure software products are kept current with technology and functional requirements

- Each product is self-supporting

- Non-profit operation

- Management and oversight by agency (DOT) personnel

- AASHTO staff project management/assistance

Task Force Member Appointment Process

- Conduct broad solicitation of interest to member community

- Candidate resumes reviewed by Task Force Chair, SCOA Liaison, and AASHTO Project Manager

- Interviews conducted by same to find subject matter expertise needed to compliment the current Task Force membership

- Candidate recommendation and all resumes received submitted to SCOA for approval

Members allowed to serve two, three-year terms. Special terms may be extended at the direction of the SCOA

AASHTOWare Service Units

AASHTOWare Software Renewal Process

2017 Bridge Management
Customer Satisfaction Survey Results

Conducted July 21 – September 1, 2017

Survey Participation

- Member Agency End User Designees were surveyed
  - ensure multiple / conflicting responses were not received from each agency
  - capture member agency software environment / configuration information
  - 31 Member Agencies responded
    - 43 Member Agencies responded in 2016
    - 29 Member Agencies responded in 2015
   - 33 Member Agencies responded in 2014

Member Agencies Not Participating in the Survey

- Arizona Department of Transportation
- City of Phoenix
- Delaware Department of Transportation
- Hawaii Department of Transportation
- Kentucky Transportation Cabinet
- Manitoba Transportation & Government Services
- Massachusetts Highway Department
- Minnesota Department of Transportation
- Nebraska Department of Roads
- New York Department of Transportation
- Puerto Rico Highway and Transportation Authority
- Richmond Metropolitan Transportation Authority
- South Carolina Department of Transportation
- Texas Department of Transportation
- Virginia Department of Transportation

Software Version Used
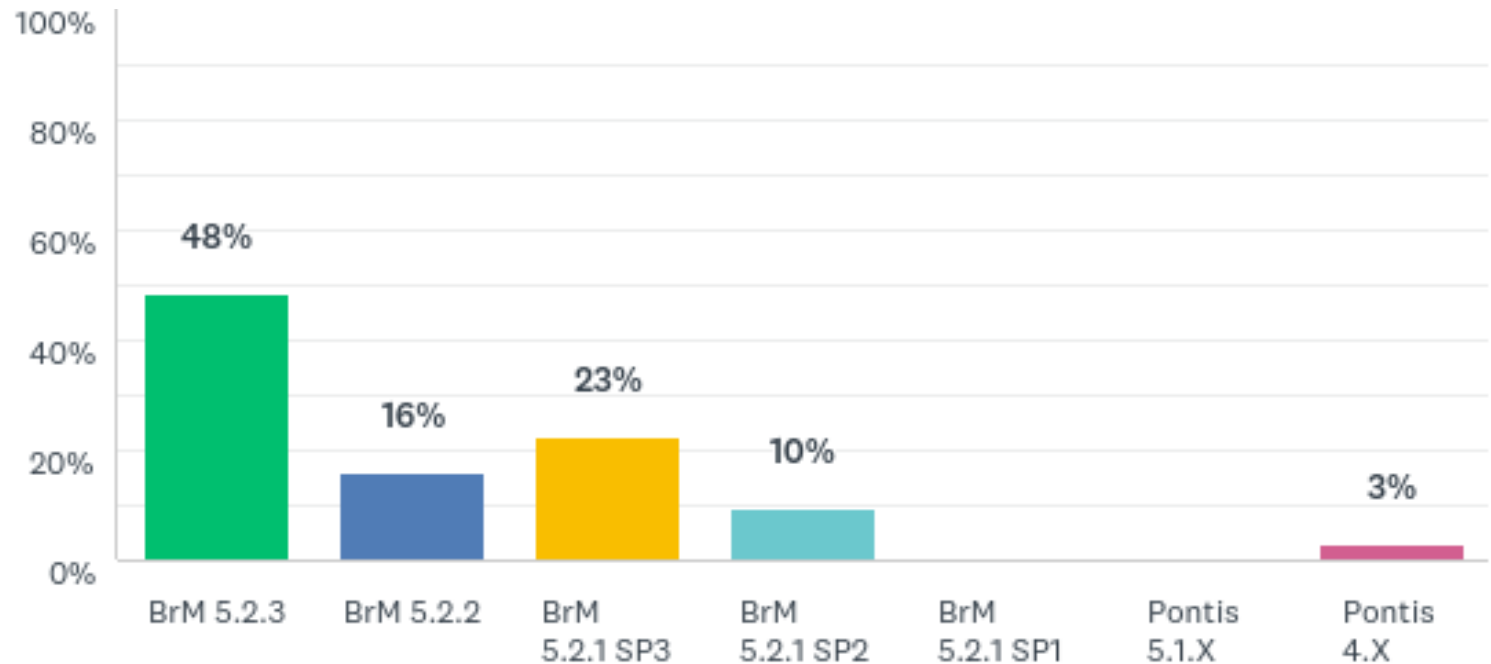
If you are using version 5.X, which platform are you using?

Both Enterprise and Workstation
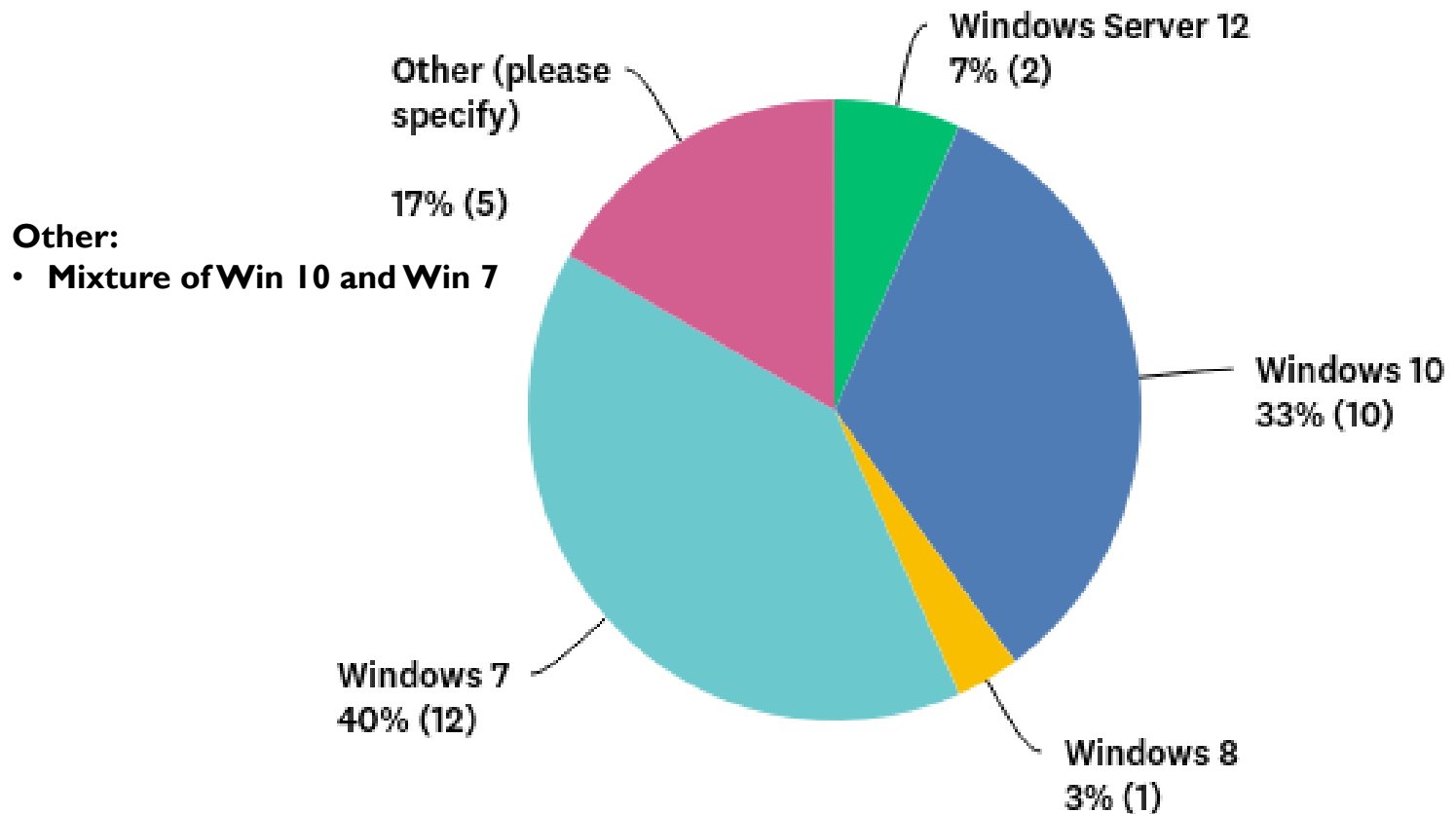20% (6)

Workstation
17% (5)

Enterprise
63% (19)
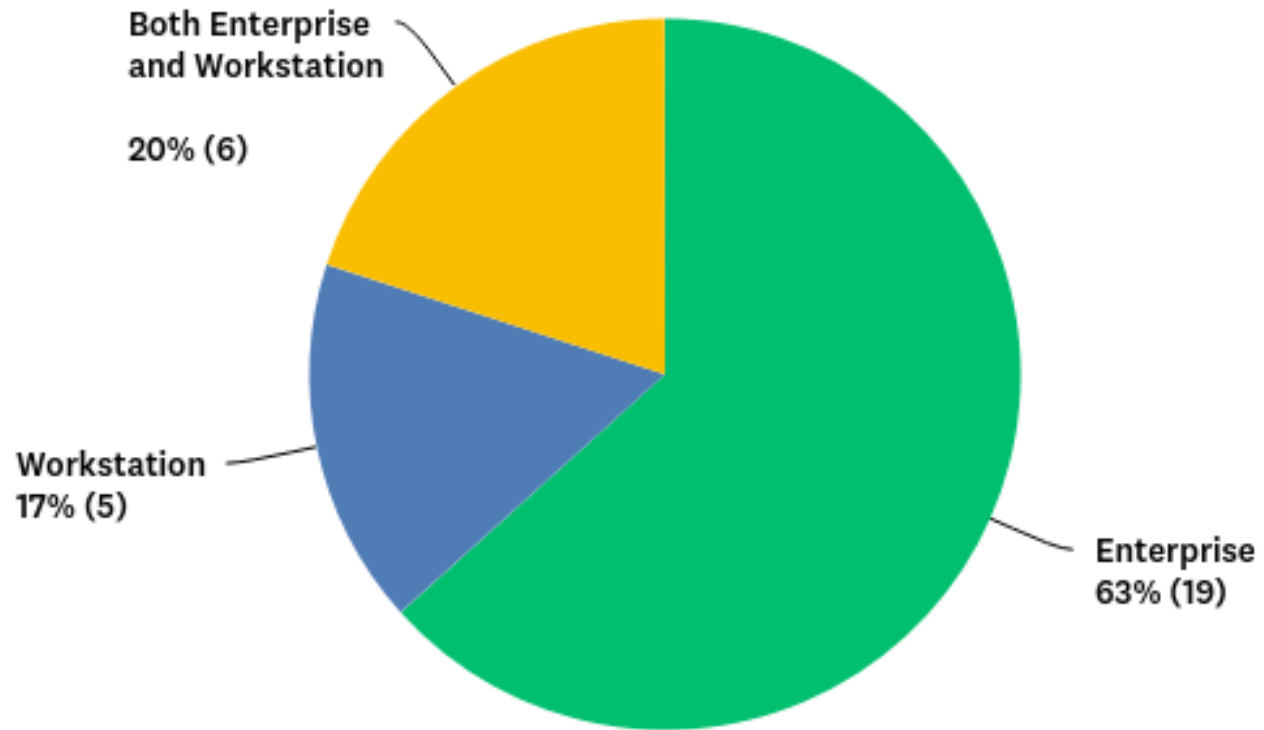
Agency Customizations to BrM

- None (9)
- Custom Fields (2)
- Agency Elements (2)
- Agency Tables (2
- Custom Forms (2)
- Custom Pages (2)
- Agency Screens
- Agency Assignment Tab
- Added Overhead Structures
- Customizations for USERINSP and USERBRDG Data Fields and Tasks
- Changes to the Tunnel Inspection Module
- Cross Sections, Load Rating History, Scheduled Processes
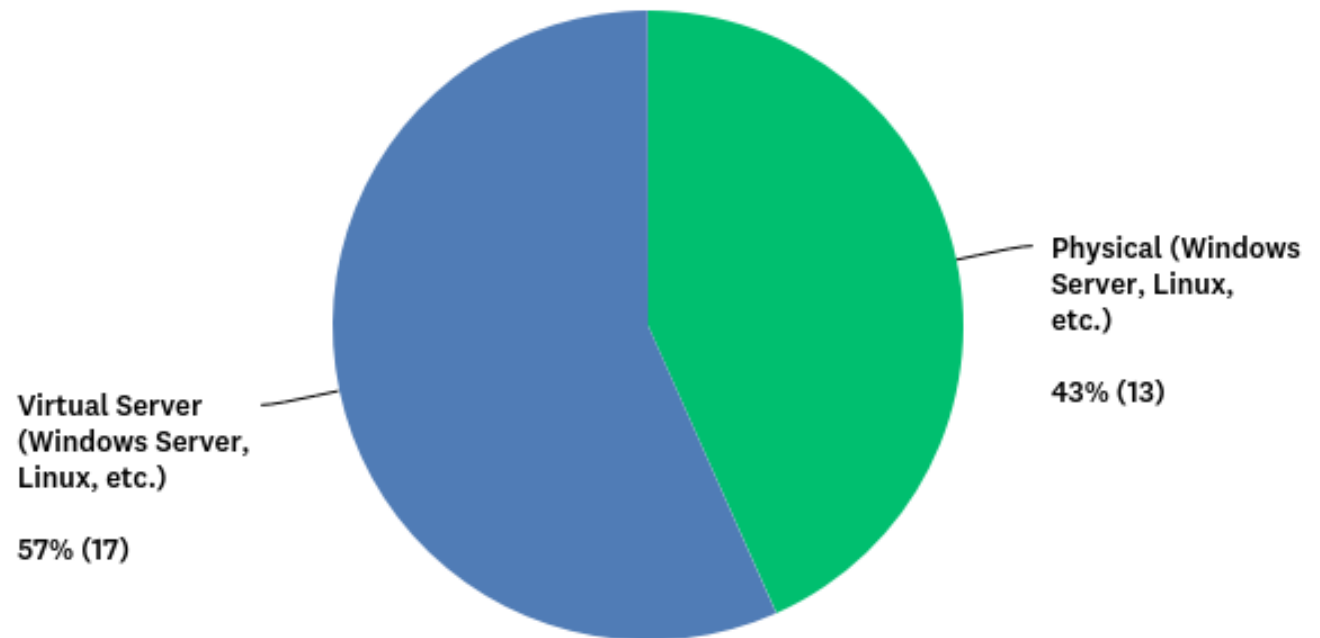- Overload, Scour, Critical Finding

Agency Customizations to BrM

- ASP.NET C# pages to handle user tables
- Agency reports (cold fusion tool independent of APP but talks to BrM database)
- Custom agency inspection page that show a few specialty inspection notes and items we track
- Developed custom reporting and data entry tools to capture agency specific data.
- Developed our own media and bridge profile.
- Interface with our plant maintenance system. Able to directly enter work orders into PONTIS which then populates our maintenance system.

Workstation Operating System

Other:
- **Mixture of Win 10 and Win 7**

Windows Server 12 7% (2)

Other (please specify) 17% (5)

Windows 10 33% (10)

Windows 8 3% (1)

Windows 7 40% (12)

Server Environment

Physical (Windows Server, Linux, etc.)

43% (13)

Virtual Server (Windows Server, Linux, etc.)

57% (17)

Which version to you plan to move to within the next year?

No Change
32% (10)

BrM 5.3
39% (12)

BrM 5.2.3
29% (9)
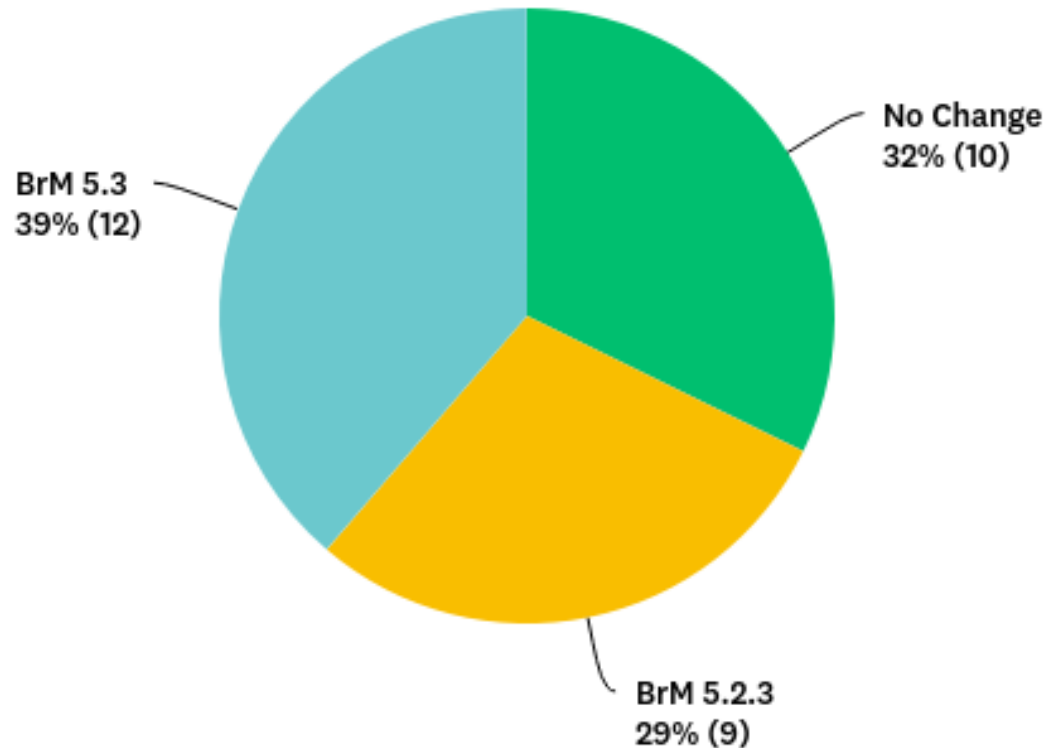
# What do you need to move to a newer version of the software?

- Nothing (5)
- IT Resources and Coordination (3)
- A Good Production Release with limited bugs (2)
- Tunnel Inspections (2)
- Tunnel Inspections Functional with Crystal Reports
- Stabilize our 5.2.3 and integrate our MMS before moving to a newer version
- Make significant changes to our BMS software and other connected systems
- Modify other systems that read data from the BrM database
- User testing and screen customizations
- Ascertain there will be no negative impact to the myriad of other department software that access the bridge database

What do you need to move to a newer version of the software?

- More time and staff for adequate testing and troubleshooting. The existing system has to keep running while the new version is tested.
- Time - BrM versions have been changing so fast we do not have time to test the newest version before a new version or fix is released.
- Plan to have in-house training to be able to use the software more efficiently

Web Browser Used
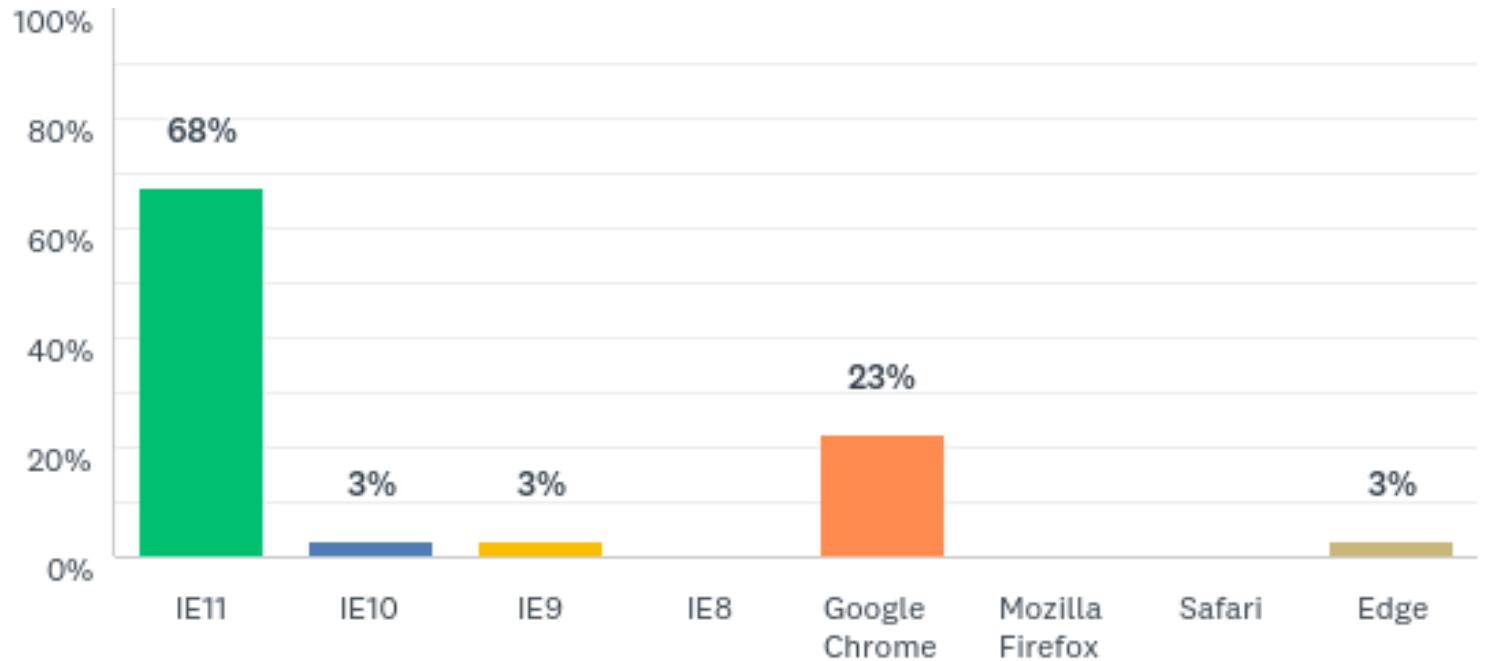
Planning to upgrade to a new web browser?

- No (13)
- Not Sure (4)
- Default browser for State agencies is IE 11, but Chrome is also available by special request. I generally run BrM in Chrome.
- IE11
- The 3 main browsers (IE, Firefox & Chrome) are all tested and upgraded to the current versions for the web portal used for our local (city and county) bridges The State system does not use a web browser directly. Our state's IT department determines when to update versions of IE.
- Firefox and IE are also used by inspectors although Chrome is used the most

Browser Upgrade Timeframe

1 - 6 months
7% (1)

6 - 12 months
21% (3)

12+ months
71% (10)
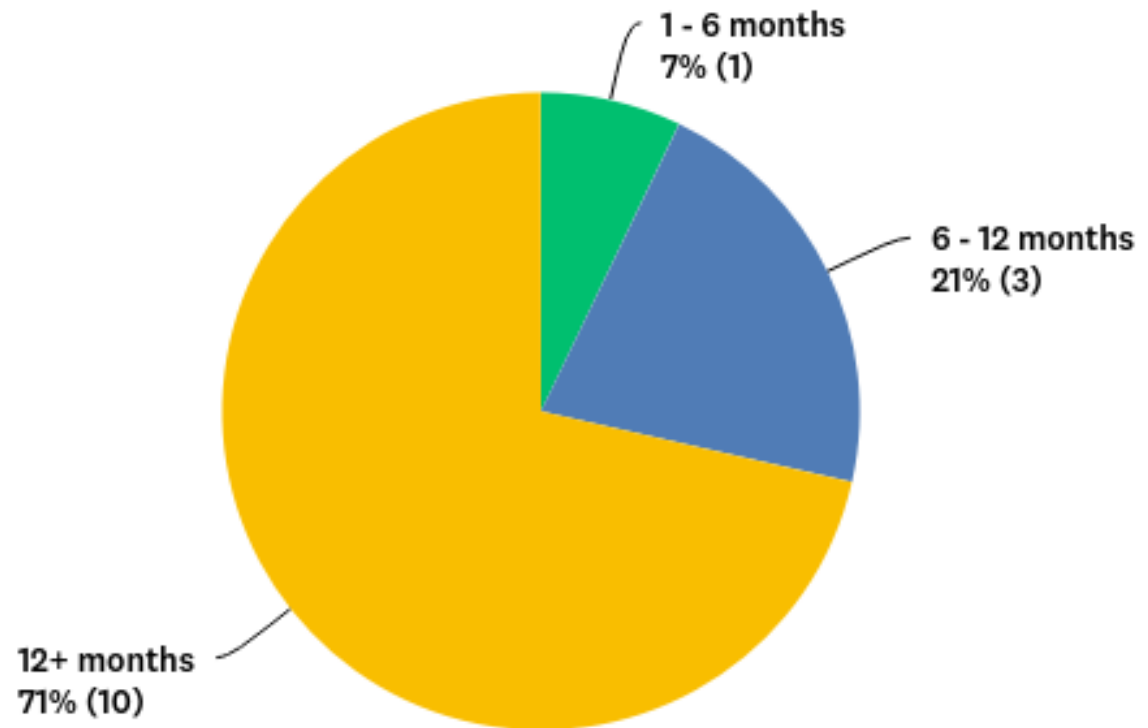
Database Software for BrM Data

SQL
55% (17)

Oracle
45% (14)
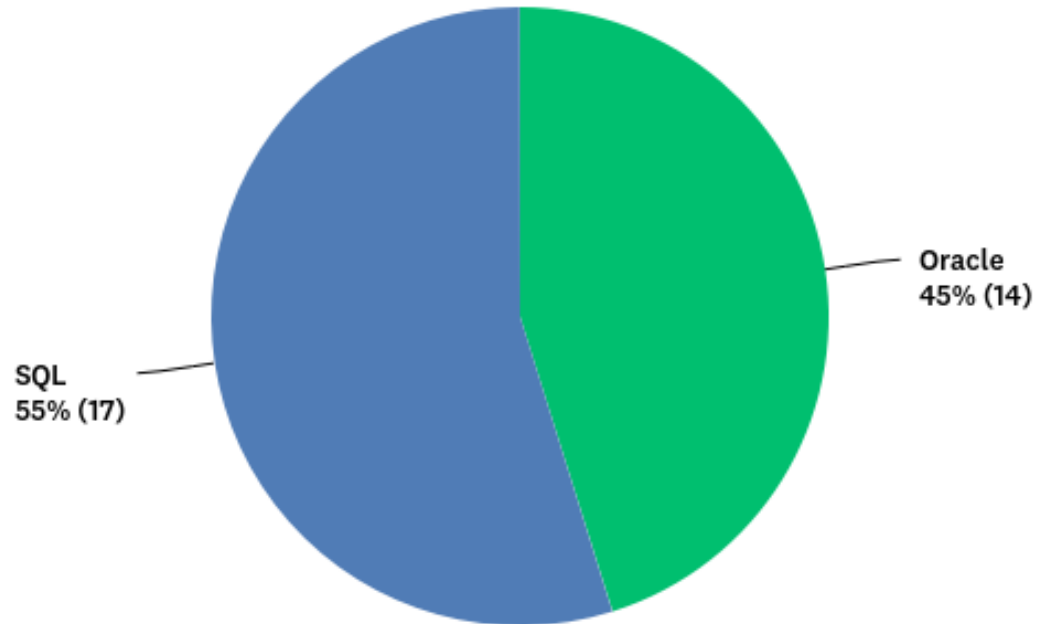
Database Software Version
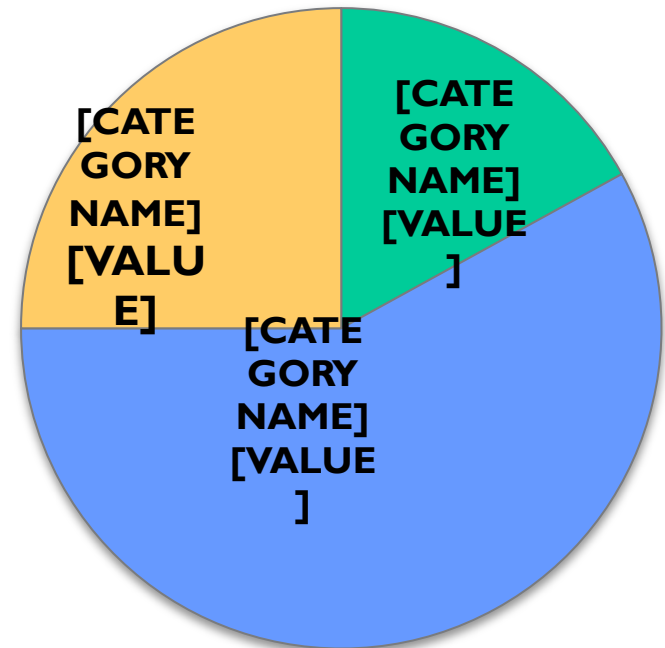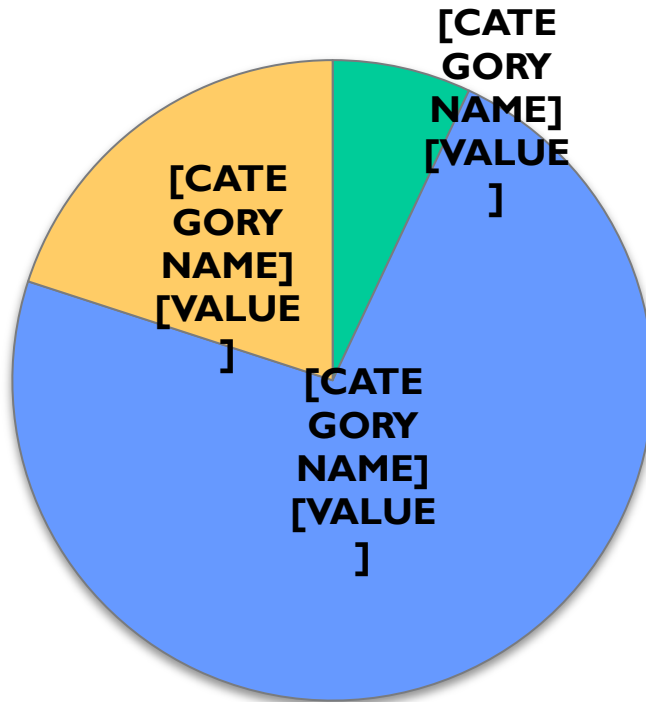
BrM Features Used
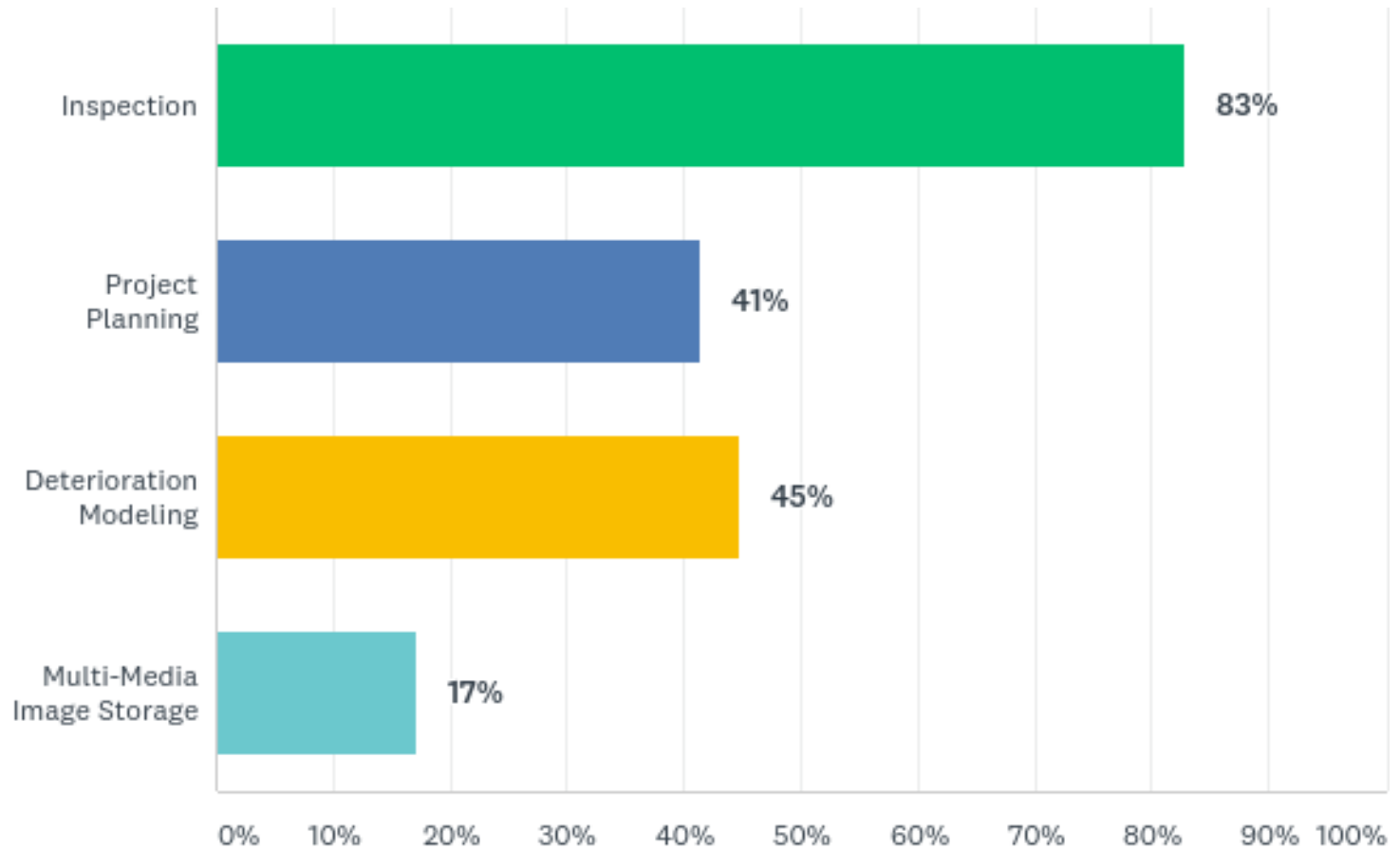
Interested in 3D Mobile Inspection?

Yes
42% (13)

No
58% (18)
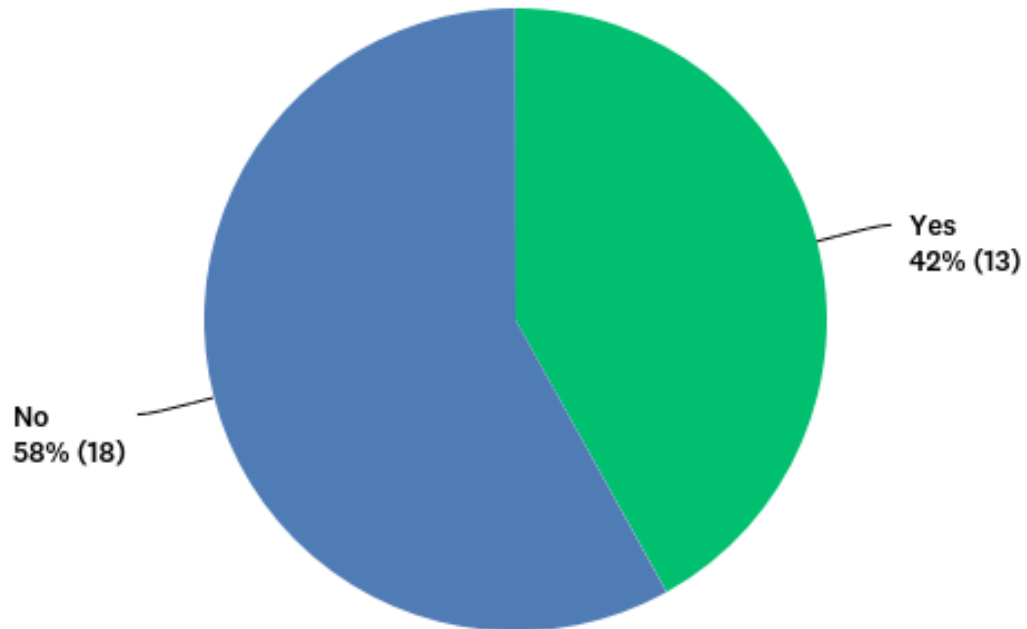
Level of Interest – Incorporating 3D Mobile Inspection into BrM
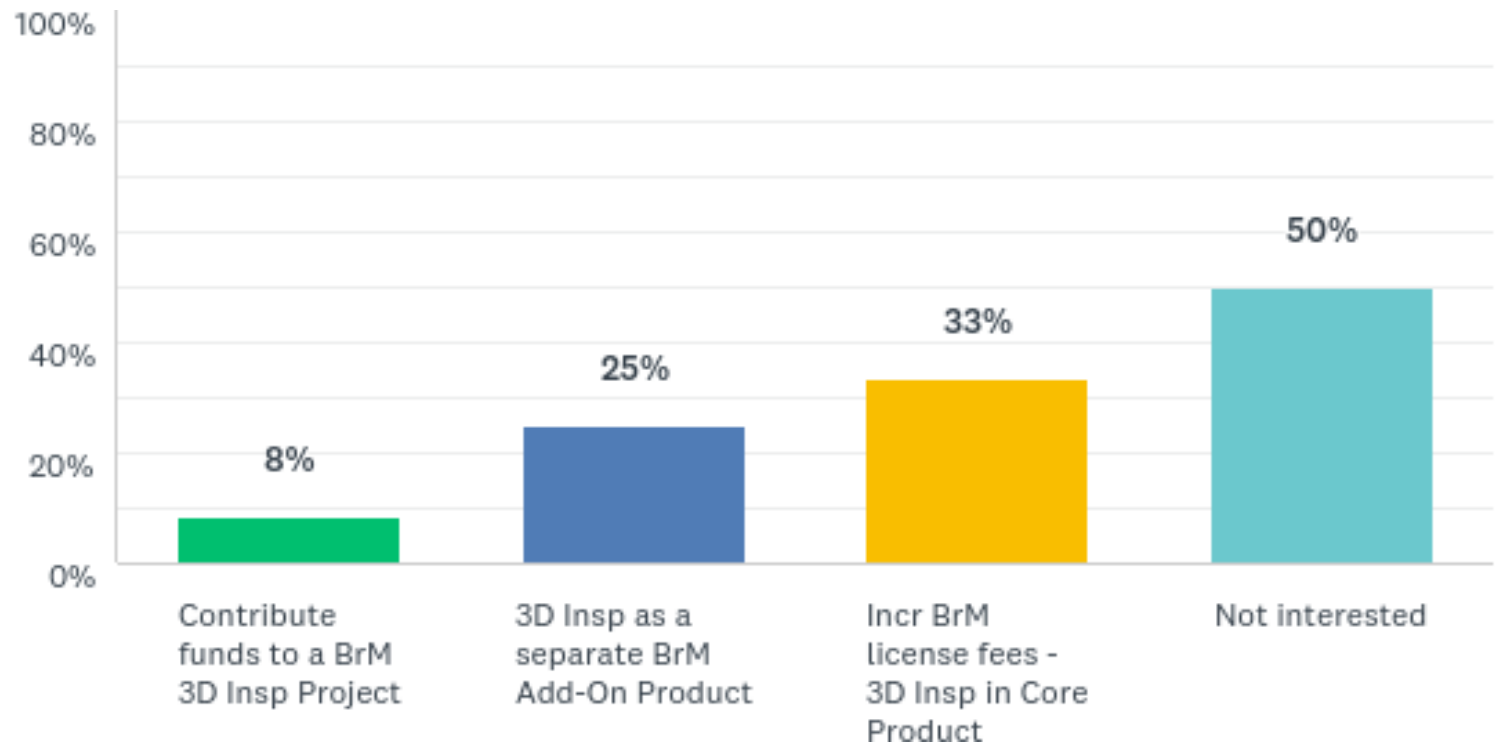
Are you using Third Party Software in addition to BrM for Inspection Data Collection?

No
48% (15)

Yes
52% (16)
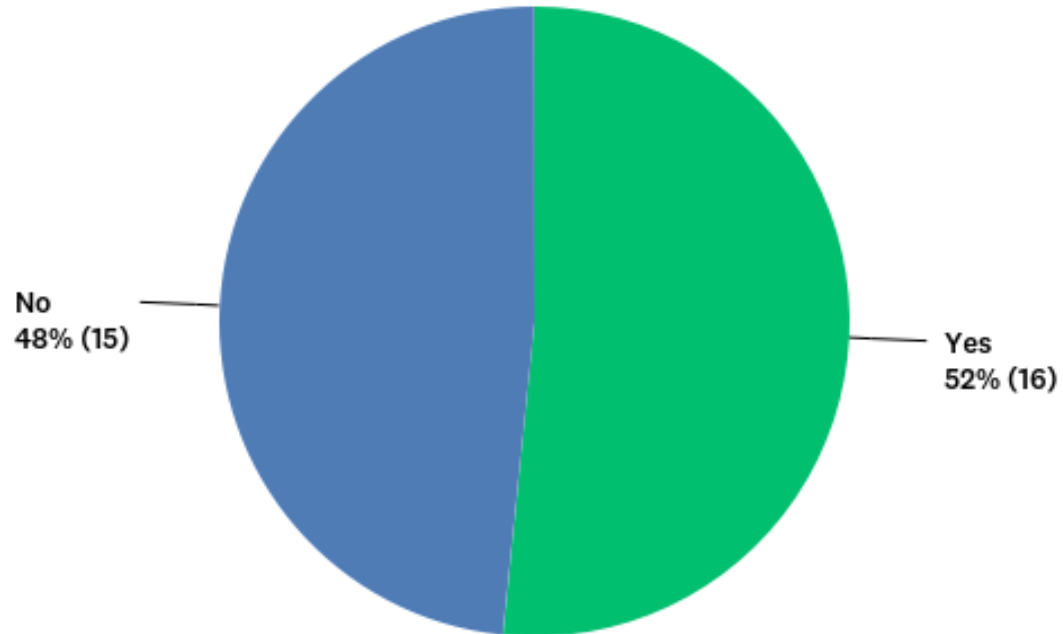
If Yes, What Software?

- Customized / In House Software (12)
  - Access and Excel Databases/Interfaces (3)
  - Highway Structures Information System
  - In House Inspection Forms and Web Portal
  - In House Inspection that allows review prior to updating the BrM database
  - In House Bridge Management System
  - Customized Wall Inspection Tool
  - Oracle Forms Application
  - Tennessee Roadway Information Management System
- InspectTech (5)

Ease of Installation
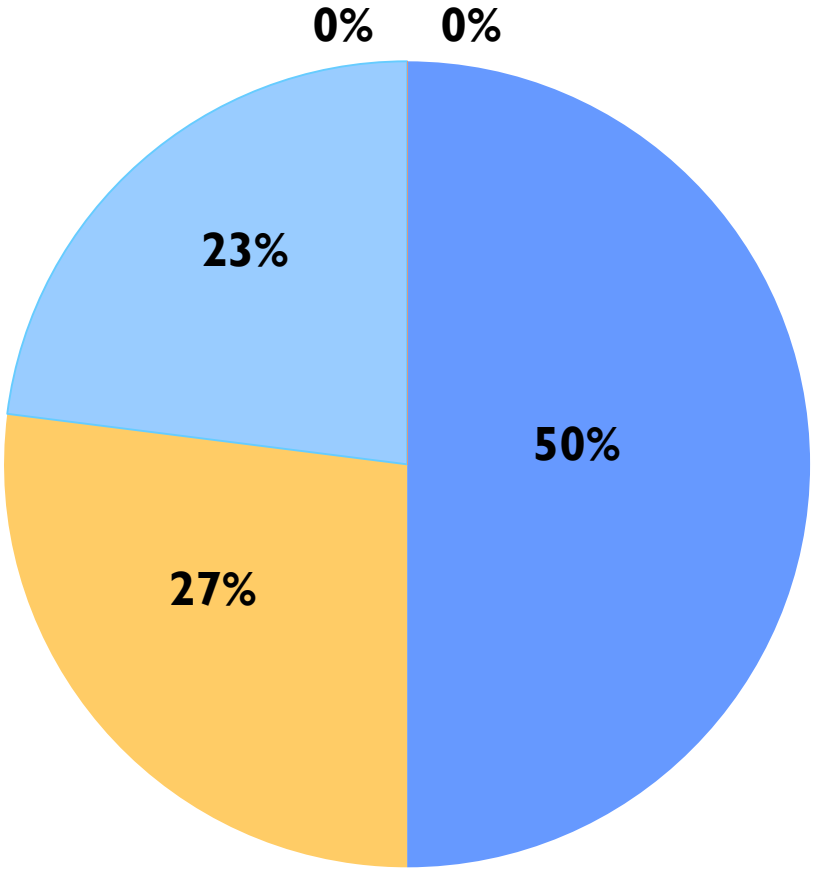
	2017	2016
■ Extremely Satisfied	0%	0%
■ Satisfied	50%	43%
■ Neither satisfied nor dissatisfied	27%	14%
■ Moderately dissatisfied	23%	38%
■ Extremely dissatisfied	0%	5%

0%   0%

50%

23%

27%

Software Operation (speed, ease of use, reliability)

	2017	2016
■ Extremely Satisfied	0%	0%
■ Satisfied	47%	41%
■ Neither satisfied nor dissatisfied	30%	26%
■ Moderately dissatisfied	20%	26%
■ Extremely dissatisfied	3%	7%
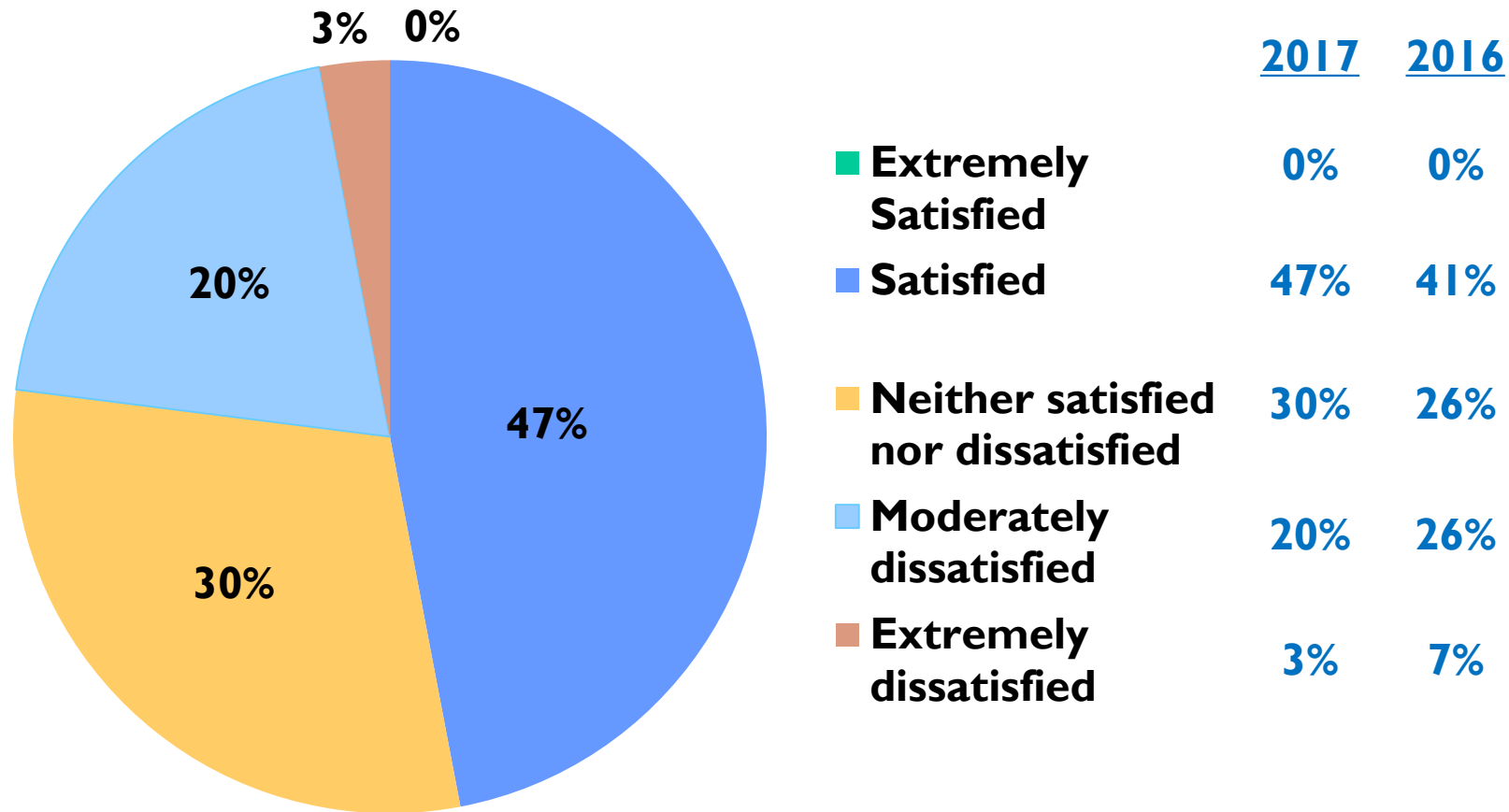
Inspection Features of BrM
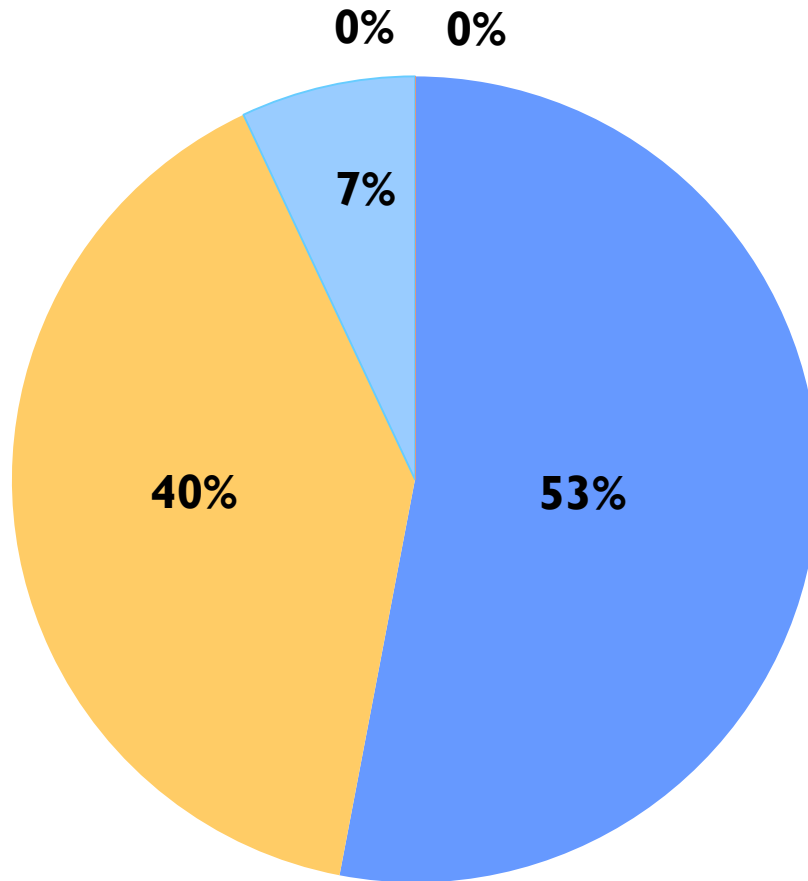
	2017	2016
■ Extremely Satisfied	0%	10%
■ Satisfied	53%	54%
■ Neither satisfied nor dissatisfied	40%	13%
■ Moderately dissatisfied	7%	13%
■ Extremely dissatisfied	0%	10%

Reports (delivery, quality and completeness)
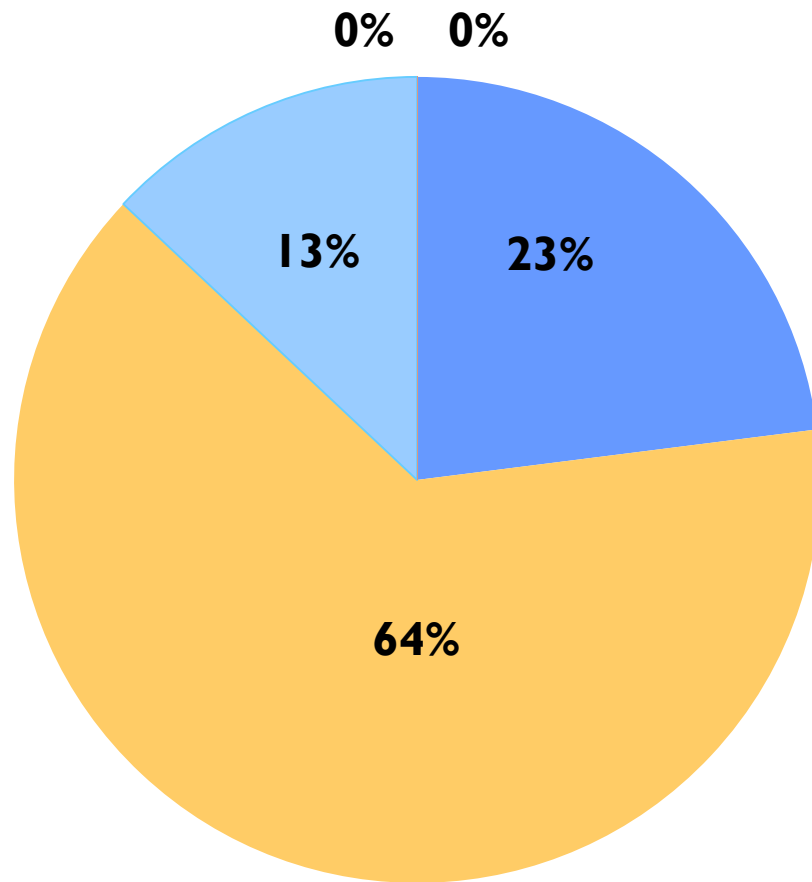
	2017	2016
■ **Extremely Satisfied**	0%	7%
■ **Satisfied**	23%	24%
■ **Neither satisfied nor dissatisfied**	64%	33%
■ **Moderately dissatisfied**	13%	26%
■ **Extremely dissatisfied**	0%	10%

Enhancements to support features not currently used

- Training (3)
  - Modeling, Deterioration, and Programming – Videos are not enough
- Updated Multi-Media (2)
- Dedicated Staff
- More Reporting Tools
- Element File Upload in XML
- We will never use BrM for data collection or multi-media, we have our own application
- We are heavily vested in our own inspection system and are not likely to move to BrM for inspections

Enhancements to support features not currently used

- Ability to use element condition data to generate actions. The most recent version is supposed to have some of this functionality but to date I have been unable to get this functionality to work.
- Option to choose the type of report system you can use.
- Ability to use MS SQL server Reports instead of Crystal Reports
- We currently do not use BrM for other than the NBI submission; however, we would be interested in FHWA metrics check and other proposed functionality such as stream cross sections
- Storage of scenario results in tables so we can slice and dice them ourselves
- Possibly the clearances

Enhancements to support features not currently used

- Data Transfer from InspectTech to BrM 5.2.3 using Web Services which includes add new data, update existing data, and delete existing data without user intervention
- Documentation that provides a clear and accurate description for the version of the new changes or enhancements. (Previous documentation has screen captures or information related to previous versions.)
- Documentation that lays out step-by-step setup for out-of-the-box installation and provides guidance toward custom installations.
- Please see the priority spreadsheet

Use of Technical Support from Bentley - 87% of respondents

	Extremely satisfied	Moderately satisfied	Neither satisfied nor dissatisfied	Moderately dissatisfied	Extremely dissatisfied
a) quality of the support provided	7% 21%	67% 51%	22% 14%	4% 14%	0%
b) contractor communication and follow-up	15% 24%	67% 45%	11% 17%	7% 7%	0% 7%
c) effectiveness of contractor telephone & e-mail support	15% 24%	55% 41%	26% 21%	4% 14%	0%
d) knowledge of the contractor help desk staff	19% 28%	55% 50%	19% 18%	7% 4%	0%
e) overall quality of contractor problem resolution	7% 21%	52% 55%	26% 7%	15% 17%	0%

Use of Development or Custom Technical Support - 36%

| 0%	Extremely satisfied	Moderately satisfied	Neither satisfied nor dissatisfied	Moderately dissatisfied	Extremely dissatisfied
a) quality of the support provided	**0%** 36%	**73%** 36%	**18%** 21%	**9%** 7%	**0%**
b) contractor communication and follow-up	**0%** 36%	**50%** 43%	**42%** 14%	**8%** 7%	**0%**
c) effectiveness of contractor telephone & e-mail support	**0%** 46%	**64%** 31%	**36%** 23%	**0%**	**0%**
d) knowledge of the contractor help desk staff	**8%** 43%	**59%** 36%	**25%** 21%	**8%** 0%	**0%**
e) overall quality of contractor problem resolution	**0%** 36%	**50%** 36%	**25%** 7%	**25%** 21%	**0%**

Comments on Contractor Support

- Overall, it seems that Bentley's effort is concentrated more on moving ahead than on fixing existing problems. Fixes keep getting moved to the next version.

- There has been a lot of turnover and it affects knowledge transfer which slows the projects down.

- Miscommunication between the vendor and our IT group led to a long delay in the launch of the software. This was related to network authentication.

- Data transfer from other than BrM software is very difficult. XML flat files is disaster, and web services is not fully integrated. We need support on Data Transfer, which is very Time Critical.

- Bentley is quick to respond

Comments on Contractor Support

- The JIRA reporting application is not intuitive
- It would be much simpler if we could simply call somebody rather than generate JIRA tickets for the most mundane of questions

Third Party Software Integrated with BrM or using BrM Data

Yes
35% (11)

No
65% (20)
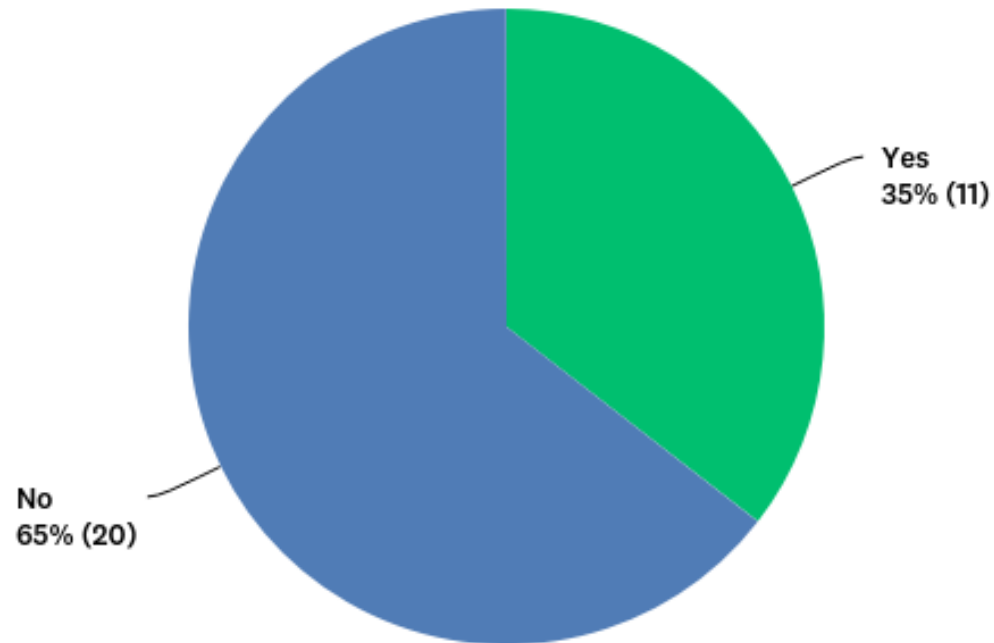
If Yes, What Software Tools

- Route Manager (Permits and Clearances)
- ePM (Project Management)
- Custom Reports, In-house Scour program, Traffic Count program, Load Rating database
- In-house designed inspection forms, web portal, ARC-GIS, Google Earth, Google Maps, Google Fusion Maps Excel forms, PL/SQL, HPMS, syncing with additional State database systems.
- No third party software but other in-house software.
- Excel spreadsheets
- AIMS, SAP, ProjectWise, GIS, COOPR (Permits software)
- Infomaker

If Yes, What Software Tools

- Google Earth, ArcGIS, MS Access Databases
- Financial Management, Maintenance Management, Project Development/Management, online maps, in the process of implementing a permit routing system
- GIS, Automated Truck routing uses vertical clearances stored in BrM
- Far too many to list, all of our project management software, database software, mapping software, permitting….

BrM Development Outside of the Service Unit Process?

Yes
17% (5)

No
83% (24)
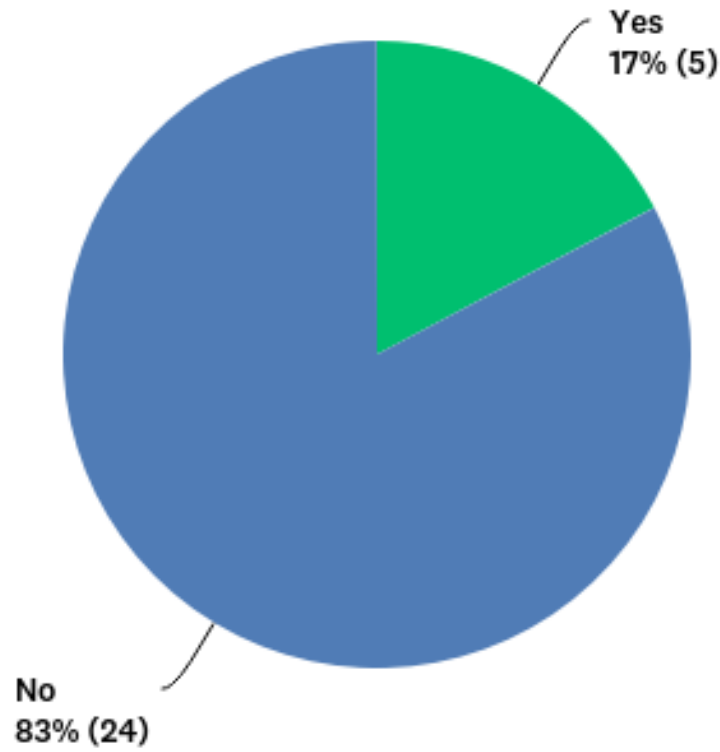
If Yes, What is the Scope of Your Current Project?

- Switch over from BrM 5.2.1 to 5.3, rebuild our report to handle GUIDs, ditto with other applications
- Internal Agency Database sync coordination and communication between systems
- Email and report generator from data entered into BrM
- Modeling process rules

Agency / Task Force Contact
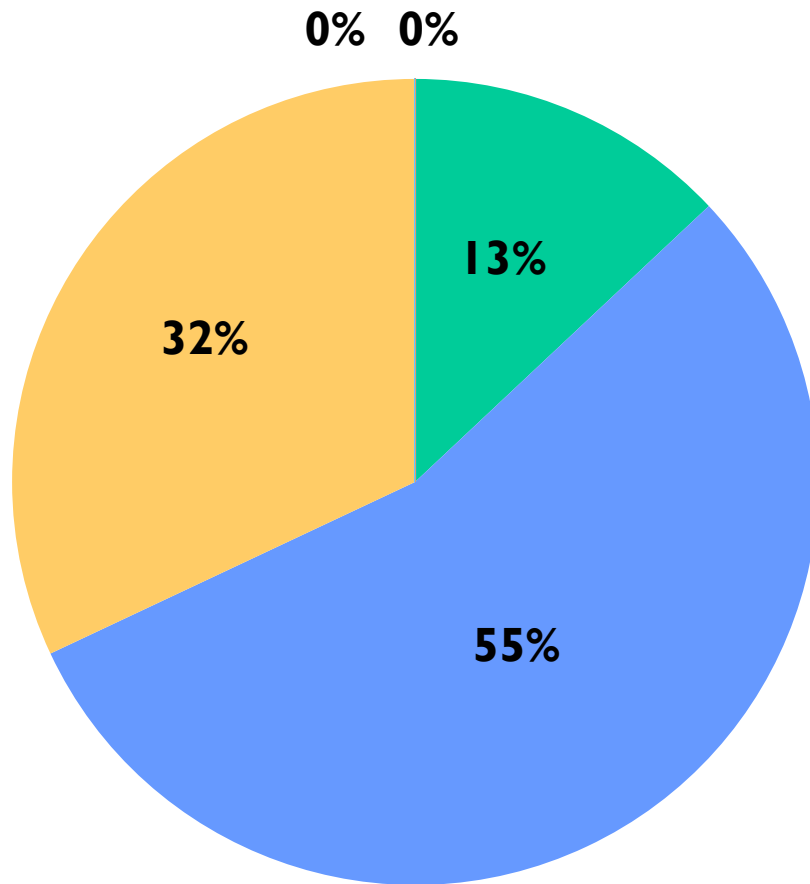
	2017	2016
🟩 **Extremely Satisfied**	13%	0%
🟦 **Satisfied**	55%	23%
🟨 **Neither satisfied nor dissatisfied**	32%	42%
🟦 **Moderately dissatisfied**	0%	35%
🟫 **Extremely dissatisfied**	0%	0%

Task Force Responsiveness
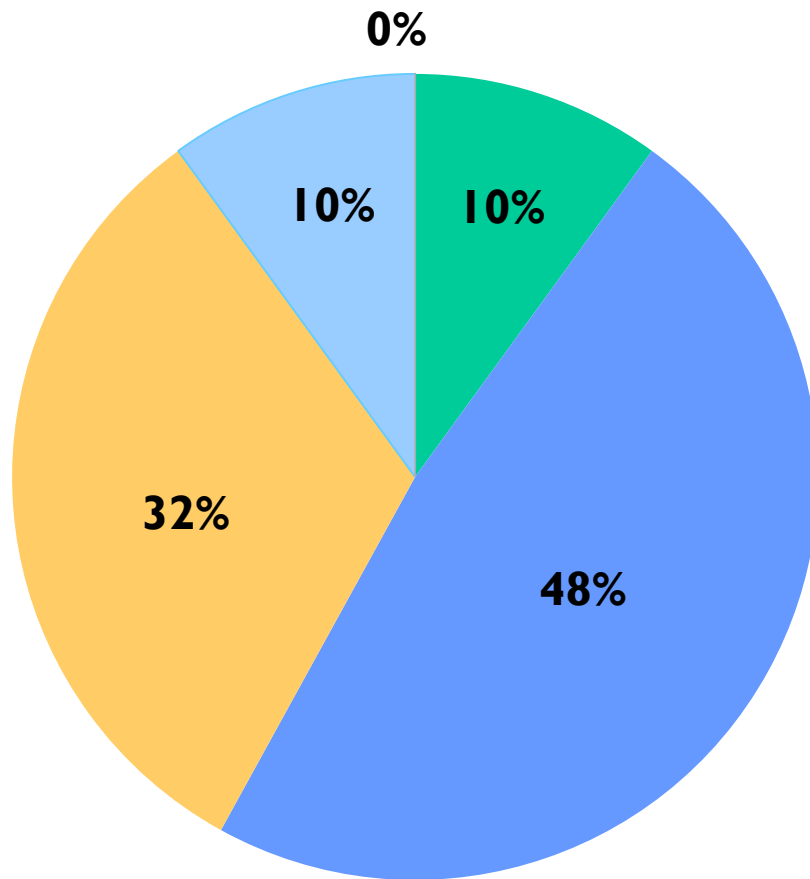
	2017	2016
■ Extremely Satisfied	10%	0%
■ Satisfied	48%	18%
■ Neither satisfied nor dissatisfied	32%	35%
■ Moderately dissatisfied	10%	42%
■ Extremely dissatisfied	0%	5%

Suggestions for Improvement Agency / Task Force

- The Task Force needs to stop pushing ahead and deferring all support and bug corrections to newer versions. There are numerous states that would prefer to have a stable, working version that everyone can move to without the need for Service Units.
- More features are nice however the speed of the program is still slow. It now takes more clicks than ever to get to a specific screen
- A website with current news and status updates would be helpful. The AASHTOWare web site is often out of date.
- The Task Force agenda and meeting notes for each Task Force meeting should be distributed to all end users, let end users review agenda and suggest agenda items prior to the meetings.

Suggestions for Improvement Agency / Task Force

- Listen to the TAG about releasing candidates
- Need dedicated beta testers for the software.   Consider hiring software testers not associated with the development team.
- The source code for the product is a mess. The task force should have an outside party review the contractors business process and make recommendation for improvement. A consultant that has no connection to the contractor or AASHTOWare
- Data Transfer improvement needed such as fully integrated Web Services between BrM and third party software such as InspectTech.
- Need to focus more on Mobile Inspection
- See the priority list

User Group / Task Force Relationship
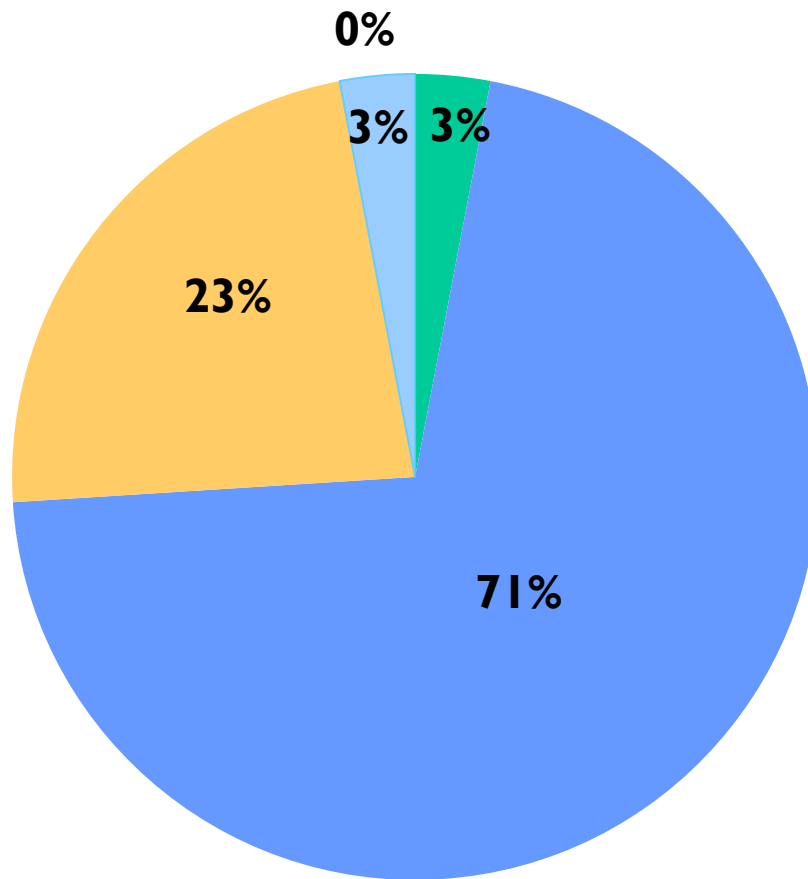
	2017	2016
■ Extremely Satisfied	3%	0%
■ Satisfied	71%	23%
■ Neither satisfied nor dissatisfied	23%	30%
■ Moderately dissatisfied	3%	42%
■ Extremely dissatisfied	0%	5%

Suggestions for Improvement
User Group / Task Force

- Communicate with the users. Let users know what is going on
- Better Documentation
- Share decisions with the users. Follow-up to let users know what decisions have been made on the issues they are submitting
- Address specific JIRA issues periodically
- In multimedia have pictures rename and resize automatically
- Much more communication, there should be a site where users can enter questions and suggestions outside of the annual meeting

Suggestions for Improvement
User Group / Task Force

- Test scripts need to be developed for the development team using a standardized database that need to be completed and results submitted to the Task Force before the software can be moved from alpha to beta. The beta testers need test scripts and a standardized database that need to be completed prior to testing the software with agency specific databases.
- Still getting familiar with the user's group and task force. Will be attending the BrMUG meeting in September.

Specific Issues / Concerns

- The User Group's need for a stable product have not fully been met.
- Additional versions are released without fully fixing all of the bugs in the current version. BrM is a continual revolving updated project instead of a consistent, reliable product. We have had to make quite a few workarounds to make 5.2.1 SP3 work for our state, but bug fixes have been deferred to 5.2.2 or 5.2.3. This has been a frustrating process.
- More time to implement new versions before the next version is released. We will not install 5.2.3 because 5.3 will be released soon.
- Too many service packs with the releases
- Implement new 2018 definition of Structurally Deficient Bridges into BrM 5.2.3

Specific Issues / Concerns

- Separately record and display status for both SD and FO.
- The tunnel module seems to be an afterthought. It would be more useful if it were better integrated into the main product (inspection planning and multimedia support).
- Include the ability for a supervisor to mark an inspection report as approved, and thereby lock the data in the report.
- All modules of both versions of the software (enterprise and workstation) need to be tested using both databases (Oracle and SQL) prior to its release.

Specific Issues / Concerns

- The BrM documentation is still quite embryonic. It is a very complicated piece of software and there needs to be a manual that explains in detail the how and why of every screen and every bit of data. Pontis had user manual and technical manual, BrM would be well advised to take their example.

- The Task Force should have Bentley prepare a user's manual that guides the user, step by step, through the process of setting up and using the software. If an agency does not have funding to hire Bentley for training, a step by step user's guide would still allow the agency to begin using the software.

Percentage of Agency Bridge Work Expenditures that are Bridge-only Projects?

Percentage
Number of Respondents

0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100
1	2	3	2	5	3	3	3	4	1	1

Type of Bridge Work Delivered via Bridge-only Projects?

- Reconstruction/Replacement (20)
- Rehabilitation (15)
- Bridge Deck Overlays and Patching (12)
- Preventative Maintenance (8)
- All Types (7)
- Preservation (4)
- Painting (4)
- Deck Replacement (4)
- Approach Pavement Replacement (3)
- Scour Repairs (3)
- Joints (2)
- Seismic Retrofit (2)
- Beam Repair (2)
- Substructure Repair (2)

Type of Bridge Work Delivered via Bridge-only Projects?

- New Bridges
- Bridge Rail Replacement
- Girder Impact Damage Repairs
- Bridge Strengthening
- Widening
- Wing Replacements
- Deck and/or Superstructure Replacement under limited scope
- We try to plan with our Roadway Groups for bridge work to be accomplished in conjunction with roadway work. If there is not a project planned, we create a bridge only project. These end up being mostly Bridge Replacements, Major Rehabilitations, or Overlays.

Type of Bridge Work Delivered in Conjunction with Roadway Projects?

- Reconstruction/Replacement (15)
- Rehabilitation (8)
- Deck work such as seals and overlays (8)
- All Types (7)
- Widening (7)
- Decks (4)
- Railing Upgrades (4)
- Safety Upgrades (3)
- Repairs (3)
- New Bridges (2)
- Joints (2)
- Approach Roadways/Slabs (2)
- Geometric Improvements (2)
- Preservation

Type of Bridge Work Delivered in Conjunction with Roadway Projects?

- Scour Repair
- Culvert Extensions
- System/Capacity Improvements
- Bean Repair
- Substructure Repair
- We try to plan with our Roadway Groups for bridge work to be accomplished in conjunction with roadway work. If there is not a project planned, we create a bridge only project. These end up being mostly Bridge Replacements, Major Rehabilitations, or Overlays

Percentage of Agency Bridges Inspected by Contracted Resources?

	Percentage
	Number of Respondents

0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100
11	4	1	0	1	2	1	2	2	3	2

Factors Considered in Determining Inspection Services to be Outsourced

- Complexity (7)
- Available Staff resources/time/experience (6)
- Ownership (5)
- Underwater Inspections requiring divers are contracted (7)
- County/other agencies owned bridges are contracted out (6)
- Access/Climbing (4)
- Location of the bridge (3)
- State Owned Complex/Moveable/Important bridges are contracted out. (2)
- Scale/Large Bridges (2)
- Traffic
- Structure size

Factors Considered in Determining Inspection Services to be Outsourced

- Type of bridge
- Bridge inspection metrics
- Data consistency
- Specialty inspections
- Expertise needed for fracture critical inspections
- Special equipment needed (snoopers, divers, etc.)
- Major river bridges
- Specialized inspections.
- Type of inspections
- Mandates to reduce number of state employees
- All border bridges are inspected by consultant
- No specific criteria is used for outsourcing inspections
- We rotate all of our inventory that does not require the use of the under bridge inspection crane.

How Contracted Services are Managed

- Statewide contracts
- Consultants are selected every five years and renewed every year.
- Qualifications-based-selection consultant contracts.
- By RFP, competitive sealed proposals, selection based on qualifications & availability, professional service agreement managed by bridge management, rotational task orders based on rank, task orders
- Agency project manager writes proposal, selects contractor, oversees work, and approves final deliverables.
- The owner secures a contract with a consultant. Hours worked are approved by an appointed Project Manager through invoices.

How Contracted Services are Managed

- Several consulting engineering firms are selected by negotiations for multi-year contracts, and supervised by project engineers within our bridge inspection unit.
- In-house local agency manager for local agency structures, lead bridge inspector for state bridges
- A project manager in our Bridge Preservation Office arranges the inspections and reviews/accepts the Consultant's work.
- Managed by the State Program Manager and staff
- Consultants work very closely with Agency Project Management Team
- Managed in-house under district and/or statewide contracts through agency's central office.
- Central office with the use of BrM

How Contracted Services are Managed

- Managed through a separate Engineering Services group within the department.
- On-call contracts
- Contract/task orders
- Oversight engineer
- Inspector qualifications are reviewed, reports are reviewed by department personnel
- Consultants hired for inspection of State Maintained/County/Municipality owned bridges are directly managed by the in-house PM and staff. Other agencies directly manage their contractors.
- In house staff develop individual work assignments with consultants
- Managed by the Bridge Office/Bridge Management Unit
- Managed by the Districts

Element Data Collection

13%
(4)

6%
(2)

81%
(25)
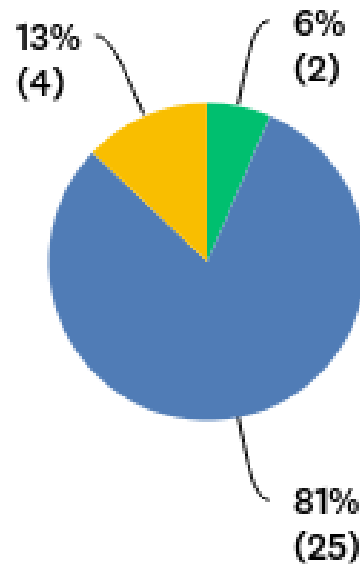
- 🟩 Collect element data only on the NHS bridges
- 🟦 Collect element data for all bridges in your inventory
- 🟨 Collect element data on more than just NHS bridges, but not on the entire inventory

Work Actions for which the Agency uses the Data

Determining systemic bridge needs or bridge inventory value at the network level
- 77%
- 23%

Generating suggested or automated bridge work strategies on a bridge-by-bridge basis
- 52%
- 48%

Selecting or prioritizing bridge replacement and rehab work candidates
- 67%
- 33%

Selecting or prioritizing bridge preservation work candidates
- 50%
- 50%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
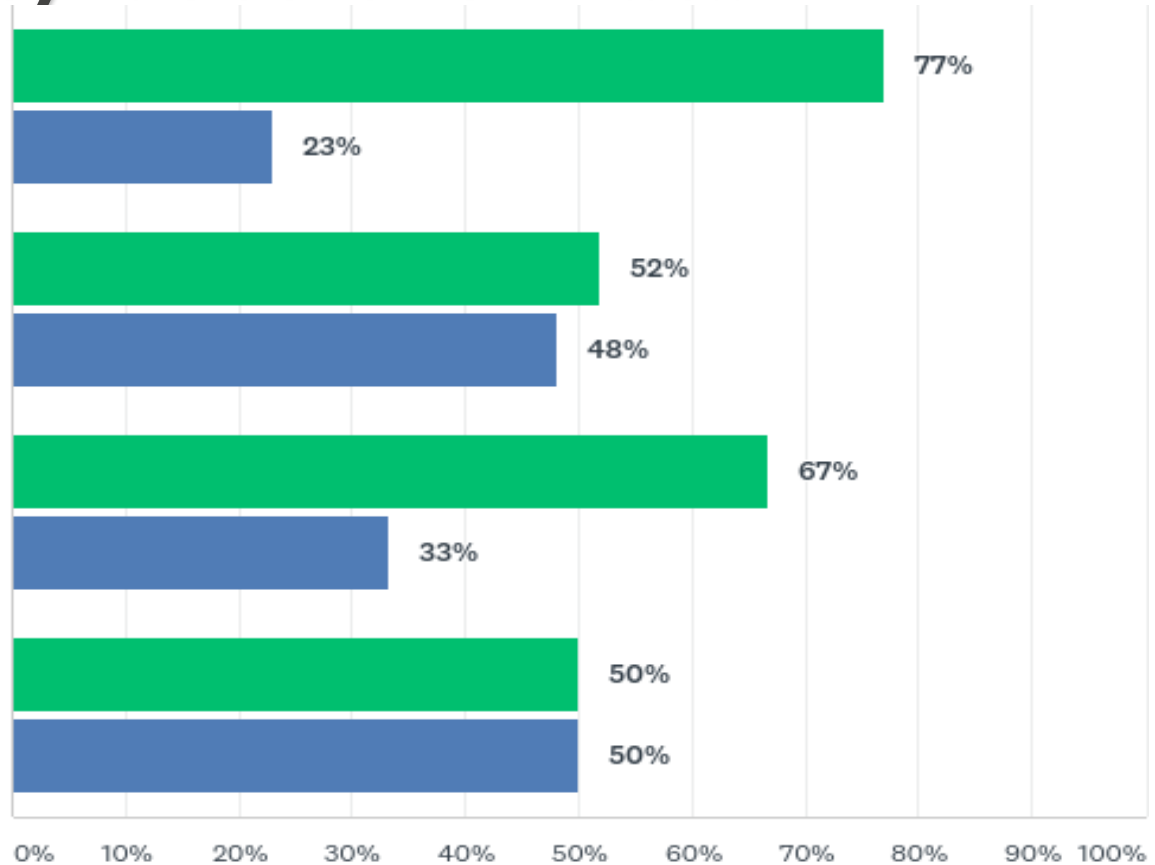
NBI general condition appraisal items for deck (i58), superstructure (i59) and substructure (i60)

Element condition data

Process Description

- Element condition and NBI data are used to calculate a bridge health index that is used to help select what structures we add to our program. Planners will then examine the work candidates and element condition data to create the estimate of work.
- Bridge work actions (replacement, rehab and preservation) are triggered based on the WisDOT Bridge Preservation Policy Guide (Condition criteria, NBI and element). Both the condition data and recommended work action are included in the calculation of priority index.
- Bridge Inspection report include repair recommendations which is compiled to generate a repair work order

Process Description

- Element Level data, as well as NBI Condition data are considered and analyzed when selection and prioritization of projects are considered
- We use a combination of NBI and Element data to determine the above work actions
- Items are used as a general prescriber of condition but not a specific part of the process
- Software scenarios run to get a list of bridge work candidates, Division engineers select from candidate and place them in the program.
- The element data to provide the initial scope of work required based on agency provided rules.
- Collect all element data for all bridges

Process Description

- Look at condition ratings for deck super and sub. All bridges with super and subs of 4 or less are initially looked at as a replacement projects. Bridges with decks of 4 or less, but super and sub greater than 4 are looked at as major rehabilitation projects. We also have $14,000,000 (approx. 15-25% of bridge budget) set aside that we use exclusively for minor rehabilitation and bridge preservation projects. We target bridges in fair or better condition for these projects. Once we select bridges we use NBE data to further evaluate and prepare Scope of Work. Always need field visit.
- The projects start at the districts, where the data is evaluated and plans are developed.
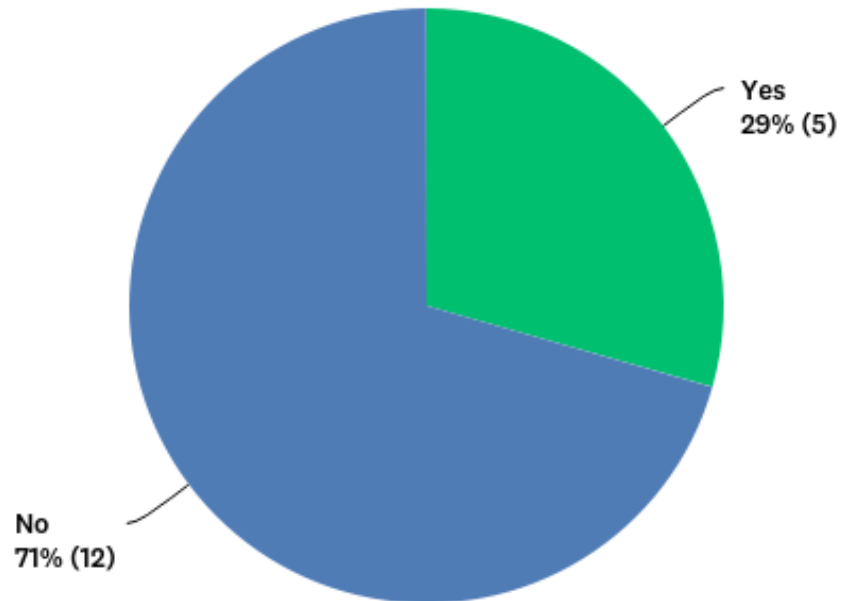
Process Description

- We use both the NBI conditions and the element condition to determine work items
- We use element data for paint to determine needs for painting projects.
- Still in development/testing phase.

Do you use BrM to Manage Bridge Work?

Yes
13% (4)

No
87% (27)
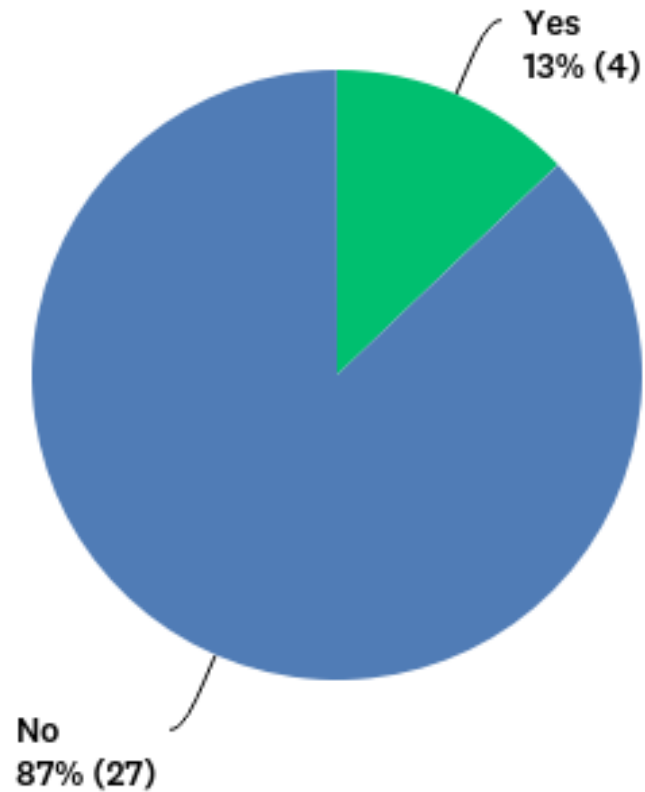
If yes, do you track the installation date for particular components?

If yes, How do you Manage the Tracking?

- Starting to track overlay installation date. After major work is performed on a structure, an initial inspection is performed where the work candidates, elements and dates will be updated.
- In a section that gets printed on the inspection form, labeled "Project History." As a bridge is investigated or discussed, it is often referred to. If errors are found, they are changed.
- Maintenance records are kept in a separate database.
- Would like to use BrM to manage
- Currently do not use BrM to track this information, we use SAP and GIS
- Track the date the work item was marked complete

If yes, How do you Manage the Tracking?

- Would like to track component ages, but haven't settled on a system yet.
- Spreadsheets

How Are Multiple Bridges on the Same Project Tracked?

- Spreadsheet (3)
- Perform an initial inspection on each structure in a project, and update information as needed.
- Internally developed software tool that "associates" bridges and bid item costs to projects. This allows us to query the contribution of bridge-only costs.
- Tracked in SAP and GIS
- Track multiple bridges on project and one bridge on multiple projects via a connecting table in the database
- Bridge sub-groups

Number of BrM Users

1
3% (1)

10+
40% (12)

2 - 5
47% (14)

6 - 10
10% (3)
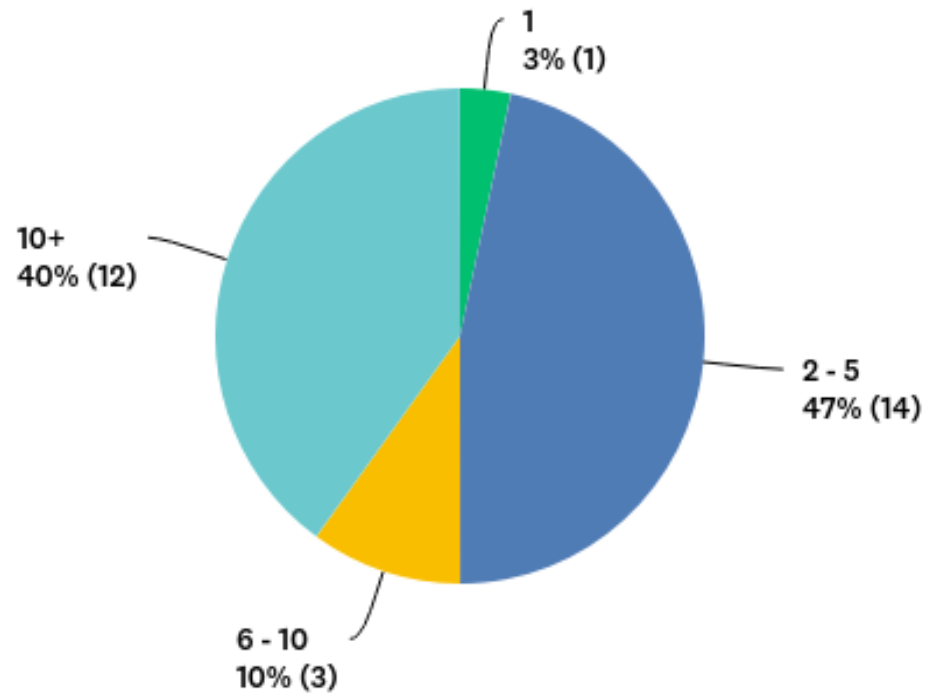
Most Significant Bridge Management Challenge

- Lack of funding to maintain bridges (3)
- Staffing that is sufficiently knowledgeable with the BrM software. Staff that has the time to use the software and analyze the output (3)
- Fulfilling the FHWA requirements to develop TAMP (2)
- Fiscal planning/Forecasting with unknown funding levels (2)
- Lack of specific guidance
- Determining the rules and maintaining cost estimate data for making decisions based on the element data.
- Forecasting future needs
- Understanding and figuring out the Deterioration Modeling and Project Planning features of BrM

Most Significant Bridge Management Challenge

- Preservation actions have no immediate effect on element/NBI condition making it look like wasted money
- Real-time bridge condition data upgrade. Since NBI inspection is performed every 24 mo, results of repairs will not be shown until next cycle of inspection
- Coordinating data from all of the different internal sources into data that can be reliable and accurately used in other areas of the agency
- Implementation of asset management processes and procedures. Completeness and accuracy of bridge management data.
- Data validation and Creation of Projects.

Most Significant Bridge Management Challenge

- Being able to provide a prioritized list of projects that upper management will implement
- Run bridge level analysis
- Keeping ahead of the deterioration of our again bridge system.
- Being able to successfully use modeling, deterioration etc. with a small staff that isn't 100% dedicated to running the software.
- Fully implanting BrM
- Incorporating BrM into a well-established project selection process. It is hard to overcome the notion that what we have works as is and doesn't need to be changed.
- BrM software that is functional

Most Significant Bridge Management Challenge

- Conversion from Pontis 4.4 to BrM 5.2.3, still struggling.
- Upgrading to newest version and using the new functionality including life cycle costs and deterioration modeling to meet recent federal requirements.
- Getting parameters calibrated for our agency
- Performance of the software
- Speed of development
- Customizing to the needs
- Software training

Questions / Comments?

AASHTO Expense Reimbursements

Concur – A majority of the AASHTO travel reimbursements will be handled via electronic input, submission, and approval.

- Judy Tarwater will conduct a brief Concur "how-to" session this afternoon at 5:00 for AASHTO member agency attendees.

Current Travel Reimbursement form on the BrMUG website

- For those AASHTO-reimbursable attendees who require travel reimbursements to go through their agency, the manual travel expense reimbursement process may be used. Sign reimbursement form, scan form and receipts, email submission to Judy Tarwater jtarwater@aashto.org