Survey conducted
September 12, 2012 - December 17, 2012
History of Responses

Number of Responses

- FY00-01 = 19
- FY01-02 = 27
- FY02-03 = 20
- FY03-04 = 29
- FY04-05 = 38
- FY05-06 = 40
- FY06-07 = 49
- FY07-08 = 35
- FY08-09 = 41
- FY09-10 = 42
- FY10-11 = 36
- FY11-12 = 33
- FY12-13 = 27
Top Agency IT Projects

- Asset Management
- Permitting and Routing
- Motor Vehicle Licensing
- Document Management
- Construction Management
- Legacy Application Modernization
- Geographic Information System Applications
- Project Management
- AASHTOWare Implementation
New / Emerging Technologies

- Mobile devices
- Increased use of cloud computing
- Social networking
- Server & desktop virtualization
- BYOD
- Document management
Hosting

Which of the following products would your agency be interested in using in an AASHTOWare hosted environment?
What Social Media is used?

1. Twitter
2. Facebook
3. Youtube
4. Others: Flickr, MySpace, RSS, Google +, Linkedin, Facebook, Pinterest, Blogspot, GovDelivery

Road Conditions and Press Releases
Employee Access to Social Media Sites?

- Yes: 44.5% (12)
- With Special Permission: 40.7% (11)
- No: 14.8% (4)
Personal Devices to eMail or Applications?

2013

- Man: 37% (10)
- No: 14.8% (4)
- Other: 18.5% (5)
- UnMan: 25.95% (7)
- ?: 3.7% (1)

2012

- Man: 42.4% (13)
- No: 24.2% (8)
- Other: 6.1% (2)
- UnMan: 27.3% (9)
- ?: 6.1% (2)
Any plans to Integrate Social Media with Applications?

• Most have no plans
• RoadInfo application (2 years out)
• Twitter with mobile apps
• Complaint tracking system
• Twitter with TripCheck (road condition)
What Mobile Applications are Being Developed?

- QuickMap traveler information – HTML5
- Service desk (IT tech) - Android & Apple
- Inventory capture
- TAPS construction data – Apple
- Materials and testing – Android & Apple
- Maintenance activities - Android & Apple
- Safety data collection
What Mobile Applications are Being Developed?

- Rail Crossing, Encroachment Permits & other pilots (ESRI) – Windows Mobile on Trimble Juno
- Construction Inspection (CarryMap) - Apple
- Signs Inventory (AgileAssets & ESRI) – Windows Mobile on Motorola MC75
- Pavement Evaluation (ESRI) - Apple
Top 5 Candidates for Mobile Software

• Field inspection (Bridge, Culverts, Construction)
• Asset inventory collection
• Maintenance/operations activities
• Construction management
• Snow plow management
What External Mobile Apps are Being Developed?

- Traveler Information Systems
- Citizen Condition Reporting
- Airport Information System
- Motor Vehicle offices & wait times
- Legislative Information System

all for Apple and Android
Internal Vs. External Mobile?

**Internal**
- Apple
- Android
- Apple & Android
- Windows Mobile & Apple

**External**
- Apple & Android
Multiple Mobile Platform Development?

- HTML5
- Adobe - Flash Builder & Creative Cloud
- JavaScript - DoJo, jQuery, ArcGIS API
- C++ & Java
Use of Cloud Computing or Software as a Service?

- Email
- Office 365
- Gmail, Gcal & Gdocs
- ArcGIS online
- 511 System
- Rail Inventory
- Agile Assets
- SAP/ERP
Best of Breed?

- DOTD - Bidders Registration
- CA - QuickMap traveler information
- MiBridge
- Roadway Features Inventory & Maintenance Management System
- Complaint/Issues Tracking System
- Transportation Management System
- OR – Trucking Online
- Integrated Transportation Management System
Overall Conclusions and Recommendations

- Promote the development of mobile applications and the use of cloud/hosting services within AASHTOWare.
- Promote GIS data compatibility in AASHTOWare products.
- Promote the use of web services within AASHTOWare products for integration purposes.
- Include mobile computing, social media, and the cloud/hosting related questions in next year’s IT Survey and include these topics in the next Technology Review.
Overall Conclusions and Recommendations

• Include surveys questions on Windows 8 and Office 2013 and include these in the next Technology Review
• Continue to monitor industry and DOT use of virtual desktops
• Solicit IT survey questions from Task Forces, SCOJD, AASTHO Staff, T&AA and ASIS
• Solicit Technology Review topics
• Research technologies to potentially standardize across AASHTOWare products
Questions

We need your ideas for next year’s survey
Thank You

Judy B. Skeen, P.E.
AASHTO Bridge Project Manager
AASHTOWare Technology Review

- Each year T&AA conducts a technology review
- Technology trends/uses are collected and analyzed from:
  - Results of the Annual IT Survey
  - Current and planned technologies used by product contractors
  - Industry trends (from IT research firm and web-based research)
- Technology Review Report is prepared with conclusions and recommendations, including:
  - Technologies to continue/discontinue review and analysis
  - Technologies to test or recommend with AASHTOWare products
  - Technologies not applicable/appropriate for AASHTOWare
  - Technologies to potentially standardize in AASHTOWare
In FY 2012 and FY 2013, our industry research firm identified the following technology themes as important for most IT organizations to support.

• Mobile Devices
• Social Media
• The Cloud
• Desktop Virtualization
• Bring your own device (BYOD)
• Security (mobile computing, social media, and the cloud have created new security issues)
• Big Data (may not be applicable to DOTs)
The IT Survey shows that the DOTs are interested in the same technologies recommended by industry research.

- Continuing use of social media with increased access to rank and file employees
- Increased use/interest in mobile devices and development of mobile applications
- Increased use of personal devices in work place (BYOD)
- Increased use/interest in the cloud and hosted environments
- Moderate interest in using AASHTOWare products in a hosted environment.
- Continued trend toward the use of virtual desktops
Technology Trends of AASHTOWare Contractors

- Info Tech is evaluating application hosting of Project with the Ohio DOT using Amazon Web Services
- InspectTech is using Amazon Web Services and Azure for internal use
- InspectTech is researching and evaluating application development for mobile platforms (iOS and Android)
- Most of the contractors use/support common base products (Windows Desktop, Windows Server, .Net, Databases, Browsers); however, the versions are not consistent
- There is also a wide variety in other tools (languages, source code control, backup, issue tracking, testing, etc.)
AASHTOWare Improvements

- Web based Construction Management System
- Provide Asset Management Software
- BAMS/DSS not require SAS software
- Improvements in bridge inspection functionality
- Better integration of applications
- Quicker software development/delivery
- Better spatial awareness tying information to real world coordinates and not just LRS
- Mobile products
- Cloud based products
FAMILY FEUD

Starring
RICHARD DAWSON!
Top Candidates for Mobile Software

1. Field inspection
2. Asset inventory collection
3. Maintenance/operations activities
4. Construction management
5. Snow plow management
What new technologies should be embraced by DOTs?

1. Mobile devices
2. SAAS cloud computing
3. Social networking
4. Server & desktop virtualization
5. BYOD
6. Document management
Your Agencies Top IT Projects?

1. Asset Management
2. Permitting and Routing
3. Legacy Application Modernization
4. Project Management
5. Motor Vehicle Licensing
6. GIS Applications