TRB AFB80 2015
Summer Committee Meeting

AFB80 Geospatial Data Acquisition Technologies in Design and Construction

July 26-29, 2015
INDIANAPOLIS, IN
Welcome to AFB80’s 2015 Summer Meeting

- Welcome of Members, Guests, Families
  newly elected chair - Brad Foltz

- General Announcements

- Setting AFB80 Final Meeting Agenda

- Preliminary AFB80 Committee Business

- TRB Announcements
TRB AFB80

2014 Summer Committee Meeting

Williamsburg, Virginia
• Election of committee secretary
Preliminary AFB80 Committee Business Items:

- “Call for Paper” Write-up
- Review of Committee Name and Scope
- AFB80’s Synthesis Topic and RNS
- Committee Membership
- AFB80 2016 Summer Meeting Location
Positioning Requirements for Geospatial Tools and Technologies
- Best Practices to meet specific transportation requirements
- Studies that document the potential of new tools/technologies as well as their limitations and risks
- Guidelines that describe which tools can meet which DOT positioning requirement
- Visualization tools that enhance the users understanding of the positional accuracy of gridded data sets

Automated Machine Guidance (AMG) and Integration of 3-D models
- Best Practices and Guidelines to meet construction positioning requirements
- The latest advancements in 3-D integrated systems

Mobile Mapping Systems (MMS)
- Case studies that describe real MMS results as well as their limitations
- Best Practices to meet specific MMS collection scenarios
- Visualization tools that enhance the users understanding of the positional accuracy of MMS technologies

Positioning of Underground Utilities and the integration of subsurface coordinates with above-ground coordinates
- Best Practices to meet underground utilities positioning requirements
- Methods for positioning, storing, and retrieving underground utilities information
- Visualization tools that enhance the users understanding of the positional accuracy of underground utilities
A proposed committee name and/or scope change must have the approval of 2/3 of the official members of the committee.

<table>
<thead>
<tr>
<th>Committee Code</th>
<th>AFB80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee Name</td>
<td>Geospatial Data Acquisition Technologies in Design and Construction</td>
</tr>
<tr>
<td>Date(s) reviewed</td>
<td>The committee will address this topic during the AFB80 Summer meetings.</td>
</tr>
<tr>
<td>Committee Scope</td>
<td>The committee is concerned with transportation applications of improved instrumentation, and new techniques, systems, and procedures in photogrammetry, remote sensing, and surveying. Committee focus includes production of high-accuracy geospatial data; global positioning systems (GPS); collection and analysis of remotely sensed data and imagery; and demonstrating the value of data accuracy standards for geographic information systems (GIS) in design and construction.</td>
</tr>
<tr>
<td>Date(s) reviewed</td>
<td>The committee will address this topic during the AFB80 Summer meetings.</td>
</tr>
</tbody>
</table>
From AFB80’s 2013 TSP: Potential topics for synthesis suggestions to address emerging and cross-cutting issues

- Current state of remote sensing products and services: stated estimate of precision versus actual accuracy value. What is the real accuracy of satellite-based imagery used to create maps? How important is it to know the accuracy level of derived products?

- A synthesis of specifications and guidelines of automated machine guidance procedures being used by DOTs across the Nation (Note: this work would build upon NCHRP 10-77.)

NCHRP 10-77 [Active]
Use of Automated Machine Guidance (AMG) within the Transportation Industry

<table>
<thead>
<tr>
<th>Project Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds:</td>
<td>$350,000</td>
</tr>
<tr>
<td>Staff Responsibility:</td>
<td>David A. Reynaud</td>
</tr>
<tr>
<td>Research Agency:</td>
<td>Iowa State University</td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td>David J. White</td>
</tr>
<tr>
<td>Effective Date:</td>
<td>7/24/2009</td>
</tr>
<tr>
<td>Completion Date:</td>
<td>2/20/2015</td>
</tr>
<tr>
<td>Comments:</td>
<td>Research in progress, Contractor's draft final report (PDFR) under review.</td>
</tr>
</tbody>
</table>
PROPOSE NEW NCHRP SYNTHESIS TOPICS for 2016

The file containing consultant letters of interest, resumes, and statements of compliance are to be submitted electronically by August 21, 2015.

Please submit to the Letters of Interest Web Portal
New topics for FY 2016 will be selected in May 2016. The following factors are considered in the selection process for synthesis topics:
Applied 3D Technologies, Tools, and Trends for Digital Project Delivery of Transportation Infrastructure Projects

Recent advances, developments, and deployments in 3D modeling and 3D technologies are transforming the way transportation and civil infrastructure projects are planned, designed, constructed, managed, and delivered. This workshop will focus on the technologies, tools, and trends including recent FHWA initiatives involved in this paradigm shift to 3D.
Your comment was submitted successfully!

The Federal Aviation Administration (FAA) Proposed Rule: Operation and Certification of Small Unmanned Aircraft Systems

For related information, Open Docket Folder

3 Your Receipt

Your Comment Tracking Number: 1je-8737x88

Your comment may be viewable on Regulations.gov once the agency has reviewed it. This process is dependent on agency public submission policies/procedures and processing times. Use your tracking number to find out the status of your comment.

Email Address

Your comment:

Comment:
We propose that the FAA allow sUAS operations within 500 feet vertically or horizontally of the surface. Specifically this proposal would be limited to allowing operations near natural features where the sUAS could be operating at more than the 500’ agl limit, but still laterally within a few hundred feet of the surface. Examples of where this proposal would be applicable would be large pit mines and cliff faces. Assuming all the other operating rules were enforced, there would be no incremental risk to people, and in fact, such a rule would enable timely monitoring of potential rock fall and avalanche risks by commercial operators.

Uploaded File(s) (Optional)
No files uploaded

This information will appear on Regulations.gov:
First Name: Brad
Submitter’s Representative:

This information will not appear on Regulations.gov:
All information will be displayed on Regulations.gov
Research Needs Statements

Advanced Search
Search Results
Record Type: RNS
Keywords: "AFB80"

Results 1 - 4 out of 4 [Page 1 of 1]

Marked projects:  Print view  Summary Print view  E-mail
Select projects:  This page  Clear page  Clear all

- Accurate Heights for Automated Construction of Finished Surfaces
  Committee: AFB80, Geospatial Data Acquisition Technologies in Design and Construction
  Date Posted: 3/5/2011
  Date Modified: 7/18/2011

- Matching As-Built Infrastructure with As-Designed
  Committee: AFB80, Geospatial Data Acquisition Technologies in Design and Construction
  Date Posted: 7/20/2008
  Date Modified: 7/21/2008

- Common Paradigm for Survey, Imagery, CAD, GIS, and GIS Data
  Committee: AFB80, Geospatial Data Acquisition Technologies in Design and Construction
  Date Posted: 7/20/2008
  Date Modified: 7/21/2008

- Renewed Cost-Benefit Analysis of Accuracy & Precision in Location
  Committee: AFB80, Geospatial Data Acquisition Technologies in Design and Construction
  Date Posted: 7/20/2008
  Date Modified: 5/23/2012
Emerging critical and cross-cutting issues within the committee scope:

**Short-Term:**
- Integration of 3D technologies into surveying and mapping activities at DOTs
- Implementation of proper geospatial procedures in Automated Machine Guidance (AMG)
- Enhancement of geospatial technologies in transportation design and construction activities
- Improvement in positioning, representation, storing, and retrieving of underground utilities information
- Proper use and understanding of the accuracy of various geodetic and remote sensing technologies, and products for transportation activities
- Proper use of current scanning technologies and their application for DOT surveying activities such as surveying existing and damaged bridges, bridge construction and inspection, interstate roadway surfaces, and monitoring of rock slides

**Long-Term:**
- Investigate the use of small unmanned aerial systems and their application for DOT activities
- Collaborative development of a research plan for geospatial information technologies in transportation surveying agencies
- Enhancement of emerging scanning technologies and their application for DOT surveying
From AFB80’s 2013 TSP: Potential topics and activities for developing new RNS to address emerging and cross-cutting issues

- Discuss the merits of AFB80’s RNS with DOT contacts and have DOT committee members submit the RNS to NCHRP through their DOT research offices

- Using AFB80’s RNS, work with ABJ60, ABJ20 and ABJ95 committee chairs to incorporate their requirements to create three new RNS

- Working with ABJ60 and ABJ95 committees, incorporate the development of new visualization and GIS tools into AFB80s existing RNS proposals

- Tools and techniques to optimize use of Lidar point cloud data and auxiliary data to meet transportation activities

- Tools and techniques to translate geospatial/technical requirements into real-world resource efficiency and cost effectiveness

- How are new technologies helping DOTs to accomplish their mission? How are new technologies hindering DOTs in accomplishing their mission?

- What are the technical issues/requirements for using highway-speed ground imaging systems (vans) for replacing ground surveys to achieve as-built “drawings” for new construction and major rehabilitation projects?

- What are the future positioning requirements necessary to meet the increase demands on the transportation system because of trends in population growth, advancements in technology, and effects of climate change on infrastructure?
The committee has representatives from all regions of the country but needs more members from the NE, and NW regions. The committee also would like more representatives from minorities, women, younger members, and Federal agencies.

**Action Plan to address deficiencies:**

- Promote greater involvement by women, minorities, and young professionals
  - Explore establishing a special relationship with historically black college(s) or minority-serving institution(s), to bring AFB80’s research focus to the institution(s) and facilitate increased participation
  - Involve the TRB Young Members Council (A0040T) and the Design and Construction Group Young Member Subcommittee in the development of communication material that describe AFB80’s mission and goals, and highlight the benefits of participating in AFB80 meetings and activities
  - Explore creation of a program that provides monetary support for minority students and young professionals to attend AFB80’s mid-year meeting (AFB80 would waive the registration fee)
  - Explore new measures and continue measures already in place to enhance diversity, such as sending call for papers and invitations to meetings to historically black college(s) or minority-serving institution(s), and inviting potential members to participate in conference calls and webinars

- Prepare a one-page informational sheet on AFB80 mission and goals and send to potential Federal agencies, state DOTs, and historically black college(s) or minority-serving institution(s)

- Pursue partnerships and joint activities with other organizations that have overlapping interests

- Establish closer ties with metropolitan planning organizations (MPO), local government, and county associations
<table>
<thead>
<tr>
<th>Member</th>
<th>Role</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bespalko, Stephen/Exemplar Technology, LLC</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Brown, Charles/North Carolina Department of Transportation</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Clabaugh, Curtis/Wyoming Department of Transportation</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Evjen, Joseph/National Oceanic and Atmospheric Administration</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Farlow, Kelly/Kansas Department of Transportation</td>
<td>Young Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Foltz, L. Bradley/Pennsylvania Department of Transportation</td>
<td>Chair</td>
<td>April 15, 2015</td>
<td>April 14, 2018</td>
</tr>
<tr>
<td>Member</td>
<td>Role</td>
<td>Start</td>
<td>End</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------</td>
<td>------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Graham, Lewis/GeoCue</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Corporation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hauck, Michael/ASPR</td>
<td>Committee Research Coordinator</td>
<td>July 01, 2013</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hauck, Michael/ASPR</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnson, Wei/South Carolina</td>
<td>Member</td>
<td>March 09, 2015</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis, Rachel/Ohio</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowe, David/Fugro</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Roadware, Inc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDaniel, Paul/Advanced Geodetic</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Applications (AGA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member</td>
<td>Role</td>
<td>Start</td>
<td>End</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Mitchell, Alexa/Missouri Department of Transportation</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Padgett, Jeff/Continental Mapping Consultants</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Roe, Gene/LiDAR News</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Singh, Ron/Oregon Department of Transportation</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Turkan, Yelda/Iowa State University</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Vonderohe, Alan/Vonderohe Consulting, LLC</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Waldemer, Jason/Maser Consulting</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Member</td>
<td>Role</td>
<td>Start</td>
<td>End</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------</td>
<td>-----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Zhang, Su/University of New Mexico</td>
<td>Young Member</td>
<td>March 09, 2015</td>
<td>April 14, 2017</td>
</tr>
<tr>
<td>Zilkoski, David/Geospatial Solutions by DBZ</td>
<td>Committee Communications Coordinator</td>
<td>July 01, 2013</td>
<td></td>
</tr>
<tr>
<td>Zmuda, Michael/JMT</td>
<td>Member</td>
<td>April 15, 2014</td>
<td>April 14, 2017</td>
</tr>
</tbody>
</table>

Currently 22 members may have 25
Count of Committee Members

US Members – 22
Non-US Members – 3
Young Members - 2
Minority – 3
Female – 6

Membership Makeup

Northwest – 1, Southwest – 3, Central – 7, Northeast – 3, Southeast – 8

Federal – 1, State – 8, Academia – 2, Industry – 2, Consultant – 7, Other - 2
AFB80 Committee Business

Discussion on the AFB80 2016 Summer Meeting Location

2009 - Estes Park, Colorado
2010 - Huntsville, Alabama
2011 - Santa Fe, New Mexico
2012 - Philadelphia, Pennsylvania
2013 - Cheyenne, Wyoming
2014 – Williamsburg, Virginia
2015 - Indianapolis, Indiana

July 2016 - ???
Tasks To Complete Before We Leave On Wednesday

- Select a Location for AFB80’s 2016 Summer Meeting
- Identify Topics that can be expanded into Research Needs Statements and/or Synthesis Topics
- Prepare a potential list of topics for sessions at the January 2016 TRB Annual Meeting
- Decide if the committee’s name and scope needs to be updated
Act 89 $2.3 billion annually in construction

25,000 bridges, P3 replacing 500 structurally deficient per year

Performed seven mobile LIDAR projects

Completed 103 photogrammetric projects

Executed 18 work orders totaling $1.3 million

Spent $250,000 in field survey gear upgrades

Updated our construction survey AMG specs

Replaced three 2D edit stations with 3D workstations