

Final Program



Twentieth Annual

GEOSPATIAL INFORMATION SYSTEMS FOR TRANSPORTATION SYMPOSIUM

To provide a forum for transportation officials from State, Province, Federal, and
Municipal Agencies to discuss GIS and transportation issues

March 26 - 28, 2007

Workshops - March 25, 2007

**Nashville Airport Marriott
Nashville, Tennessee**

Sponsored by:

American Association of State Highway and Transportation Officials



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**The Twentieth Annual GIS-T Symposium -
*GIS-T 2007 Mileposts to Milestones***

provides a forum for professionals interested in the design and use of GeoSpatial Information Systems for transportation. This Symposium brings together individuals from education, the private sector, and all levels of government for a full day of workshops March 25, 2007, and three full days of conference activity, March 26 - 28, 2007.




Check WWW.GIS-T.ORG for the most current information

GIS-T 2007 PLANNING COMMITTEE

Diane Pierzinski, Conference Chair

Jay Adams Oklahoma DOT	Debra Alfonso Michigan DOT
Lindsay Banks FHWA	Rose Braun Nebraska DOR
Mark Bradford BTS	Frank Busch Retiree
Van Colebank Tennessee DOT	Dick Genrich Retiree
Connie Gurchiek GeoDecisions	Lou Henefeld Colorado DOT
Marvin Koleis Colorado DOT	Tammy Lang Colorado DOT
Brian Logan Kansas DOT	Kim McDonough Tennessee DOT
Daris Ormesher South Dakota DOT	Cindy Owings Maine DOT
Jim Patterson Texas DOT	Roger Petzold FHWA Liaison
James D. Ramsey AASHTO Rep.	Mark Sarmiento FHWA
Bruce Spear Retiree	Ray Tucker Tennessee DOT
Ben Williams FHWA	Frank Winters New York CSCIC

General Schedule

	Sunday March 25, 2007	Monday March 26, 2007	Tuesday March 27, 2007	Wednesday March 28, 2007			
7:00 AM	Registration Continental Breakfast	Registration Continental Breakfast	Registration Continental Breakfast	(Sleep In!!!)	7:00 AM		
8:00 AM	Morning Workshops 1. Blazing the Trail: The Transportation Component of Emergency Management 2. 3D Geospatial for Transportation: Best Practices and Project Implementation Methods 3. The National Geodetic Survey's CORS Network and RTK GPS 4. Visualize Your Assets with HERS-ST	Opening Session Welcome Keynote Speaker <i>Andy Andrews</i>	Panel Discussion Transportation for the Nation John Auble - Moderator	Registration Continental Breakfast	Technology Hall Open	8:00 AM	
9:00 AM				Break		Break	Panel Discussion Sharing and Integrating GIS Transportation Data Among Jurisdictions Tami Griffin - Moderator
10:00 AM		State Summary & Roll Call of States	Session 3 1. Enterprise Data & GIS 2. Asset Management 3. Management Systems 4. Environmental				Break
11:00 AM				Lunch		Lunch	Session 6 1. GIS Databases 2. Web GIS 3. Geocoding & Routing 4. Planning
12:00 PM	Lunch - Workshop Attendees Only	Technology Hall Open	Technology Hall Open		Box Lunch		12:00 PM
1:00 PM	Afternoon Workshops 1. Geography, the Census Bureau and Transportation -- Where it all Begins 2. A Powder Keg of Usability - Implementing Ajax in Web-based Mapping Applications, Analysis Techniques, and GIS Modeling 3. Dynamics of Environmental GIS - Persuading Information to Multitask Through Applied Technologies and Methods 4. Using LIDAR Workshop: The Basics			Session 1 1. State of Tennessee 2. Student Paper Contest Winners 3. Web Portals 4. Data Collection	Session 4 1. Google Earth GIS 2. GIS-T Research 3. LRS / LRM 4. MPO GIS	Awards/Drawings Next Host State Presentation	1:00 PM
2:00 PM				Break	Session 2 1. GPS / GIS 2. Web Applications 3. Federal Data 4. Enterprise GIS	Session 5 1. Database Design 2. Safety / Traffic 3. Web Data Integration 4. GIS Analysis	Cyber Security Presentation
3:00 PM	Symposium Wrap-Up Come join us for a debriefing of this year's symposium and planning for the next. Refreshments Provided!						
4:00 PM		Break	Poster Session	Break		4:00 PM	
5:00 PM	Technology Hall Reception 	Technology Hall Reception 	Tuesday Night Social 		5:00 PM		
6:00 PM				Birds of a Feather		6:00 PM	
7:00 PM						7:00 PM	
8:00 PM					8:00 PM		

GIS-T 2007 WORKSHOPS – SUNDAY, MARCH 25

7:00 AM - 8:00 AM

Registration

8:00 AM - 12:00 PM

Blazing the Trail: The Transportation Component of Emergency Management	3D Geospatial for Transportation: Best Practices and Project Implementation Methods	The National Geodetic Survey's CORS Network and RTK GPS	Visualize Your Assets with HERS-ST
Jo Jordon, FEMA	Tim Case, Parsons Brinckerhoff	Bill Henning & Bill Stone, National Geodetic Survey	Simon Lewis, ITIS, Inc and Robert Mooney, Federal Highway Administration
Room: Capitol I	Room: Capitol II	Room: Salon A	Room: Salon B&C

12:00 PM - 1:00 PM

Lunch – Cumberland Ballroom

1:00 PM - 5:00 PM

Geography, the Census Bureau and Transportation-- Where It All Begins	A Powder Keg of Usability: Implementing Ajax in Web-based Mapping Applications	Dynamics of Environmental GIS- Persuading Information to Multitask Through Applied Technologies and Methods	Using LIDAR Workshop: The Basics
Michael Ratcliffe, US Census Bureau, and Bruce Spear, Retired, and Ed Christopher, FHWA.	Fred Riethmiller, Steve Korzekwa, and Brendan Carroll, GeoDecisions	Robert Fuhler, the Arkansas State Highway and Transportation Department	Brian Stevens and Qian Xiao, Woolpert
Room: Capitol I	Room: Capitol II	Room: Salon A	Room: Salon B&C

SUNDAY, MARCH 25

TECHNOLOGY SHOWCASE

NASHVILLE BALLROOM - SUNDAY 5:30 PM TO WEDNESDAY 12 NOON

Please join us in the Nashville Ballroom for a showcase of technology and applications from a variety of exhibitors. The Technology Showcase opens on Sunday evening at 5:30 pm with a reception for all Symposium attendees and guests. During this event, we will begin the 20th GIS-T Symposium celebration. On Monday, the formal reception from 6:00 pm to 8:00 pm will give attendees a chance to see the exhibits and socialize with colleagues.

In addition, the technology showcase will be open at these times:

Monday—12 noon to 8:00 pm
Tuesday—7:00 am to 5:30 pm
Wednesday—7:30 am to 12 noon

GIS-T 20TH SYMPOSIUM

The 2007 GIS-T in Nashville, Tennessee marks the 20th Symposium. During the Symposium this year special activities and registration gifts are being planned to celebrate this historic milestone.

The first GIS for Transportation meeting was organized by the American Association of State Highway and Transportation Officials (AASHTO) Computer Subcommittee in 1986 in Phoenix, AZ and was chaired by Mike Bacon from Wisconsin DOT. Mr. Bacon was assisted by others from the Wisconsin DOT which included David Moyer and David Fletcher. The first meeting in Tempe, Arizona in 1987 was convened to better understand this new GIS technology and understand how it could be applied to better manage our transportation system. After this first meeting a Task Force on Geographic Information Systems was formed by the AASHTO Subcommittee and it was decided to have annual Symposiums to share information on this new technology starting in 1989. The AASHTO Subcommittee Task Force was chaired by Mike Bacon, Wisconsin DOT until his retirement. Jim Dolson, Florida DOT then took over the Task Force. The Task Force consisted of four members: David Moyer, Program Chair (assisted by David Fletcher), Jim Dolson, Local Arrangements Chair, Roger Petzold Vendor Chair, and Jack Stanton, AASHTO Staff. After Jim Dolson left Florida DOT in 1996 the Task Force was chaired by Diane Pierzinski from California DOT. Under Diane's leadership the Task Force was expanded to include one representative from each AASHTO region and a FHWA liaison. The Task Force then established a Symposium Planning Committee of over 20 people to divide up the work and to get more people involved. In 2004 the Chairmanship of the AASHTO Subcommittee Task Force on GIS in Transportation was transitioned to Daris Ormesher of the South Dakota DOT and Diane took on the Chairmanship of the Planning Committee. The Symposium continues to grow and share information. The attendance at the 2006 Symposium in Columbus, Ohio was over 500 people.

The GIS for Transportation Symposium has been one of the most effective tools over the last 20 years at promoting the application of location-based technologies (GIS, GPS, Remote Sensing, etc.) to better manage our transportation system. The AASHTO Task Force on GIS in Transportation has been an effective model for the continued adoption of new technologies.



GENERAL SESSIONS

MONDAY, MARCH 26

KEYNOTE SPEAKER

ANDY ANDREWS

CUMBERLAND BALLROOM - MONDAY 8:00 AM TO 10:00 AM

A turning point occurs when a profound principle enters your consciousness, and in that moment, your life changes course. Every decision you make and action you take from that point on catapults you into an entirely new realm of possibility. Perhaps you've noticed this shift in one of your colleagues at work. Something is different about him or her – demeanor, attitude, productivity – something shows evidence of a life-altering inner change.

Join our keynote speaker on an exciting adventure through the “Seven Decisions”. In his keynote address, Andy pokes fun at our perceptions of the “ordinary” themes and proceeds to explain these principles in a way that you have never heard before. Andy brings new insights to dealing with problems, outlining the essential steps to greater individual fulfillment and increased corporate profitability. He explains how to eliminate mental safety nets that keep us from reaching our goals. Plus, Andy shares the life-changing principles found in his international best seller “The Traveler’s Gift”.

STATE SUMMARY AND ROLL CALL OF STATES

CUMBERLAND BALLROOM - MONDAY 10:30 AM TO 12:00 NOON

Every year the AASHTO GIS-T Symposium conducts a survey to determine the general status of GIS within DOTs, the changes that have occurred over time, and trends. **Bruce Spear**, recently retired from FHWA, conducted this survey and presents his summary report on the state of GIS-T in the state transportation agencies. Your registration packet includes this annual summary report.

The Roll Call of States introduces delegates from each transportation agency at this Symposium. **Frank Winters’** presentation gives one representative from each state, federal, provincial, country, and local agency the opportunity to briefly mention the status of their GIS implementations, their recent projects and applications, and the challenges that they face.

STUDENT PAPER CONTEST

SALON A - MONDAY 1:30 PM TO 3:00 PM

This year GIS-T presents the second annual Student Paper Contest, open to technical research papers written by students enrolled in a university or college. These papers focus on developing solutions for current GIS-T issues. The top entries selected by the planning committee will present their papers at the conference and will take home a \$250 or \$500 award.

POSTER SESSION

CUMBERLAND BALLROOM - MONDAY 5:00 PM TO 6:00 PM

The GIS-T Symposium provides a unique opportunity for attendees to display posters showcasing their work during the Symposium. The Poster Session will display the Official Transportation Maps submitted by each State, Territory, or Province. Come explore the variety of features represented on their official maps along with the creativity applied to GIS analysis. An expert panel of judges will evaluate each poster. Awards will be given within the categories of - Analytical Presentation, Cartographic, and Official Transportation (Published) during the Wednesday Symposium lunch. Please take advantage of this opportunity to share techniques and applications with your peers in the transportation GIS community.

BIRDS OF A FEATHER

CAPITOL I AND CAPITOL II - MONDAY 8:00 PM TO 9:00 PM

Each year at GIS-T the planning committee schedules concurrent sessions under the heading of *Birds of a Feather*. These sessions are designed to give Symposium participants an opportunity to present questions as well as issues of concern to some of the leading technology companies that serve our GIS for Transportation niche. Past Symposiums have featured two or three of these companies.

SPOUSE TOURS

MONDAY, MARCH 26 - VISIT VIBRANT DOWNTOWN NASHVILLE

You'll start your day at the historic Ryman Auditorium, the home of the Grand Ole Opry from 1943 to 1974 and "The Mother Church of Country Music." Step onto the historic stage and have your photo taken, then stroll through the halls filled with fascinating memorabilia from the Ryman's storied past. Afterwards, the tour moves a few blocks to Hatch Show Print, a letterpress print shop where you can get your vintage old western concert posters featuring the likenesses of Willie Nelson, Dolly Parton, Johnny Cash, Garth Brooks, and other country Hall of Famers. Get your music-to-go at the Ernest Tubbs record shop on Broadway and enjoy shopping for souvenirs in The District. A quick lunch at Jack's Barbecue and then we're off to tour the Hermitage, Andrew Jackson's 1837 mansion. Guides in period costume will lead us through this gorgeous Greek Revival house, garden, and farm.

TUESDAY, MARCH 27 - DISCOVER HISTORIC FRANKLIN

Site of the Battle of Franklin during the Civil War, Franklin, Tennessee is rich in history and small town charm. Start your outing at the Carter House, a Registered National Historic Landmark. Built in 1830, The Carter House was caught in the swirling center of one of the bloodiest battles of the War Between the States. Your tour includes a video presentation and battlerama, museum, and guided tour of the house and grounds. Next we'll visit the beautifully renovated downtown district with its historic buildings and mix of elegant boutiques, gift and bookstores, antiques shops, art galleries, and wonderful restaurants. After a delicious southern-style meal, we'll conclude our tour with a trip to the Factory at Franklin, a historic site offering 35 shops, restaurants, antiques, gifts, art, pottery, and more.

ANYTIME - OPRY MILLS

Opry Mills brings "Shoppertainment" to life in a retail, dining, and entertainment complex. Enjoy over 200 of the best names in manufacturers' and retail outlets. Need a break? There are several restaurants on site or you can take in a movie or IMAX feature at the theater. Hotel shuttles are available.

TUESDAY, MARCH 27

PANEL DISCUSSION

TRANSPORTATION FOR THE NATION

CUMBERLAND BALLROOM - TUESDAY 8:00 AM TO 10:00 AM

Moderator: John Auble - TeleAtlas

State DOT's are increasingly being asked to expand their roles and responsibilities regarding transportation data. The demand may be internal such as the new requirement to locate accidents on all roads rather than just state highways. Much of the demand is from other agencies, such as those wishing to use the transportation network for address geocoding to correctly apportion tax revenues. In this session three state DOT's will provide insight on the political, cultural and technical challenges associated with moving toward a single transportation database for all government agencies. Also, Stu Davis, president of the National State Geographic Information Council (NSGIC) will provide a brief outline of NSGIC's charge as well as NSGIC's specific interest in transportation data. Panelists include:

- Stu Davis – NSGIC
- Frank Winters – New York State, CSCIC
- Oscar Jarquin - California DOT
- Matthew Laick- Delaware DOT

TUESDAY NIGHT SOCIAL

THE COUNTRY MUSIC HALL OF FAME AND MUSEUM

TUESDAY 5:30 PM TO 10:00 PM

BOARD BUSES AT THE MAIN ENTRANCE OF THE NASHVILLE AIRPORT MARRIOTT HOTEL

The Country Music Hall of Fame® and Museum has been the home of America's music since 1967. In keeping with the cultural significance of the music and the heroic achievements of those who form its membership, the Museum opened in a \$37 million landmark, new building in May 2001. Inside, the Museum presents the crown jewels of its vast collection to illustrate country music's story as told through the turns of two centuries. A treasure trove of historic country video clips and recorded music, dynamic exhibits and state-of-the-art design, regular menu of live performances and public programs, museum store, live satellite radio broadcasts, on-site dining and fabulous public spaces all contribute to an unforgettable museum experience.

WEDNESDAY, MARCH 28

PANEL DISCUSSION

SHARING AND INTEGRATING GIS TRANSPORTATION DATA BETWEEN LOCAL AND STATE JURISDICTIONS

CUMBERLAND BALLROOM - WEDNESDAY 8:30 AM TO 10:00 AM

Moderator: Tami Griffin – GIS Manager, Washington State DOT

The growing need to share common data between all forms of government is being undertaken by a pool fund study in many different states. This panel will discuss:

1. Developing effective collaboration between jurisdictions.
2. How the state is working with local governments to translate their data into a centralized data source and the political and administrative efforts as well as some technical efforts necessary to prepare each dataset in each jurisdiction. These processes are designed for initial data submission and for the periodic maintenance of their data by the local jurisdiction. (Agreement Points, MOU, Data sharing agreements, and working with surrounding jurisdictions to obtain an inclusive dataset.)
3. The data submission processes and where we are in the development of software for Internet Portals for a data provider and data user as well as requirements for integration.

Participants Include:

- Michael Leierer – Washington State DOT
- Dave Blackstone – Ohio DOT
- Kim McDonough – Tennessee DOT
- Dennis Schofield – Oregon DOT

CYBER SECURITY

WILLIAM F. PELGRIN

**DIRECTOR OF THE NEW YORK STATE OFFICE OF CYBER SECURITY AND CRITICAL INFRASTRUCTURE COORDINATION, AND CHAIR OF THE MULTI-STATE INFORMATION SHARING AND ANALYSIS CENTER
CUMBERLAND BALLROOM - WEDNESDAY 1:30 PM TO 3:00 PM**

The growing evolution of technology and its increasing volume and complexity, combined with the ever-increasing cyber security threats and attacks (such as worms, hackers and data breaches), have brought a new awareness of and need for response to these issues. William F. Pelgrin, Director of the NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC) and Chair of the Multi-State Information Sharing and Analysis Center (MS-ISAC), presents a dynamic, multi-media presentation focusing on the cyber security and critical infrastructure initiatives underway in New York State through CSCIC as well as nationally through the MS-ISAC.

As Director of the New York State Office of Cyber Security and Critical Infrastructure Coordination (CSCIC), William Pelgrin is responsible for leading and coordinating New York State's efforts regarding cyber readiness and resilience and geographic information systems. Under Director Pelgrin's leadership, the CSCIC has established a 7x24 Cyber Security Center; deployed intrusion detection architecture for critical segments of the State's network and computing infrastructure; conducted risk assessments for state agencies; and released statewide cyber security polices on incident reporting and baseline cyber security requirements.

SYMPOSIUM WRAP-UP

CAPITOL II - WEDNESDAY 3:00 PM TO 5:00 PM




Come join us for a debriefing of this year's symposium and planning for the next.


Refreshments Provided!

Host: Diane Pierzinski

CONCURRENT SESSION 1


1:30 PM MONDAY, MARCH 26


1.1	State of Tennessee			Capitol II
Moderator: John Hicks, Tennessee Dept. of Transportation				
	1.1.1 A Sign Of The Times? Metro Nashville's Automated Sign Inventory	Clifton Ogden Civic Engineering & Information Technologies, Inc. Nashville, TN	Dr. James Tsai Georgia Tech University	
	1.1.2 Upgrading The Tennessee DOT TRIMS Application To A New GIS Platform	Rick Hammond Woolpert, Inc Indianapolis, IN		
	1.1.3 Using a Web-based Spatial Interface to Access Non-spatial Project Data	Ray Tucker Tennessee DOT Nashville, TN		
1.2	Student Paper Contest			Salon A
Moderator: Cindy Owings, Maine Dept. of Transportation				
	1.2.1 Analyzing Satellite Imagery to Develop Freight Generation Data	Subhro Mitra North Dakota State University Fargo, ND		
	1.2.2 A Critical Review and Integration of GIS-Based Spatial Databases for Multi-Commodity and Multi-Mode Freight Movement Modeling and Security Analysis in USA	Justin LeBeau University of Oklahoma Norman, OK		
	1.2.3 Modeling Transportation-Related Emissions Using GIS	Peng Wu University of California Davis, CA		
1.3	Web Portals			Capitol I
Moderator: Shawn Blaesing-Thompson, Washington State Dept. of Transportation				
	1.3.1 Oklahoma DOT's Geographical Resource Intranet Portal, A Technology Upgrade (GRIP V3)	Tim Callahan Oklahoma DOT Oklahoma City, OK	Jesse Jay GeoDecisions Harrisburg, PA	
	1.3.2 Kanroad Support Of Kansas ITS Efforts	JoAnn Mattson Intergraph Corporation Westminster, CO		
	1.3.3 Building a Successful ArcIMS based Transportation Corridor Property Acquisition Tool	Darin Herle Latitude Geographics Victoria, BC, Canada		
1.4	Data Collection			Salon B & C
Moderator: Athar Naqi, NAVTEQ				
	1.4.1 Alaska DOT&PF Photolog / GPS Data Collection And Integration	Larry Mattke Mandli Communications, Inc. Oregon, WI	Kerry Kirkpatrick Alaska DOT & PF	
	1.4.2 A Systematic Approach To The Efficient Collection Of Ramps, A Case Study – Louisiana DOT	Michael Nieminen Roadware Group Inc. Paris, Ontario, Canada		
	1.4.3 Enhanced Transportation Asset Data Collection Using Video Log Image Pattern Recognition	Dr. James Tsai Georgia Tech University Atlanta, GA		

The  symbol indicates a session from Tennessee, the Host State.

CONCURRENT SESSION 2

3:30 PM MONDAY, MARCH 26

2.1	GPS / GIS		Salon B & C
	Moderator: Jared Causseaux, Florida Dept. of Transportation		
2.1.1	 TDOT's Past, Present and Future Experience with their Continuously Operating GPS Reference Network	Jim Waters Tennessee Dept. of Transportation Nashville, TN	
2.1.2	Using GPS For Travel Time Study	Rakesh Sharma Belomar Regional Council Wheeling, WV	
2.1.3	Mobile Mapping: New Technologies And Methodologies	Daniel Desgagné, Tara Kingston, Claude Laflamme Geo-3D Inc. Brossard, QC, Canada	
2.2	Web Applications		Capitol I
	Moderator: Jim Vitale, WEC Engineers, Inc.		
2.2.1	Winter Weather Information On Web GIS	Xiangyi Zhu, Eric Herman NYS Thruway Authority Albany, NY	
2.2.2	PennDOT's Road Closure Reporting System (RCRS) Phase II	Doug Tomlinson Pennsylvania DOT Harrisburg, PA	
2.2.3	North Dakota DOT GIS Web Portal And Video Log - Spatial Data Portal And Video Log Viewer Project	Brian Bieber North Dakota DOT Bismarck, ND	Albert Sarvis GeoDecisions Harrisburg, PA
2.3	Federal Data		Salon A
	Moderator: Yushang Zhou, Cambridge Systematics		
2.3.1	Nextmap USA - A National Digital Elevation Mapping Program And Its Applications In Transportation	Matt Cross, Ian Isaacs, Marc Wride Eastern US Intermap Technologies, Inc. Englewood, CO	
2.3.2	Feeding Your HPMS	Tammy Elwer Intergraph Madison, AL	
2.3.3	Image Based Road Inventory System	Jason Dong Enterprise Information Solutions Columbia, MD	Mani Radhaji GISBiz, Inc. Fayetteville, TN
2.4	Enterprise GIS		Capitol II
	Moderator: Roger Ewers, California Dept. of Transportation		
2.4.1	Colorado Department Of Transportation GIS Integration With Enterprise Resource Planning (ERP) Implementation	Marvin Koleis Colorado DOT Denver, CO	Michael Wierzbinski Farragut Systems Inc
2.4.2	GIS Enabling HPMS – Unstovepiping the Pipes	Diane Pierzinski California Department of Transportation Sacramento, CA	
2.4.3	Web-Based LRS Editing And Dynamic Segmentation Using ArcGIS Server At Rhode Island DOT	David Weinstein Geonetics Boston, MA	

The  symbol indicates a session from Tennessee, the Host State.



CONCURRENT SESSION 3


10:30 AM TUESDAY, MARCH 27

3.1	Enterprise Data & GIS		Capitol I
	Moderator: Dave Loukes, Opus International Consultants (Canada) Ltd.		
3.1.1	South Dakota Department Of Transportation Business Intelligence Using GIS	David Wagner Cost Technology, Inc. Allentown, PA	
3.1.2	Washington DOT Upgrading Basemap Data - The Path To GIS Maps, A Modern LRS, And Local Roads Data	Shawn Blaesing-Thompson Washington DOT Olympia, WA	Larry Mattke Mandli Comms, Inc. Oregon, WI
3.1.3	Beyond A Strategic Plan, Developing An Enterprise Geospatial Information Management System	Oscar Jarquin, Bill Naddy California DOT Sacramento, CA	
3.2	Asset Management		Capitol II
	Moderator: Kirk Weaver, Michael Baker Jr., Inc.		
3.2.1	GIS-Centric Roads Asset Management System	Ali Roshannejad, Nico Bernard City of Calgary Calgary, AB, Canada	
3.2.2	Web-Based Management Services For Infrastructure Corporation Of America	Keith Tolison Woolpert, Inc. Portsmouth, VA	
3.2.3	Massachusetts Road Inventory - LRS Based, Data Rich, And An Asset Management Tool	Mark Berger Massachusetts Executive Office of Transportation Boston, MA	
3.3	Management Systems		Salon B&C
	Moderator: Jesse Jay, GeoDecisions		
3.3.1	Adding Spatial Data To Existing Information Systems	Eric Abrams, Steve Kadolph Iowa Department of Transportation Ames, IA	
3.3.2	PennDOT's Statewide Strategy For Traffic Management Centers	Doug Tomlinson Pennsylvania DOT Harrisburg, PA	
3.3.3	Integrating GIS And ERP: The Pennsylvania Turnpike Commission's Experience	James E. Vitale W.E.C. Engineers, Inc. Bridgeville, PA	
3.4	Environmental		Salon A
	Moderator: Kimberly Majerus, FHWA-Resource Center		
3.4.1	Fulfilling EPA Requirements For Storm Water Mapping Using GIS	Michael P. Benedict, GISP, Michael Bieberitz HNTB Corporation Milwaukee, WI	
3.4.2	A Rural Roadway Vegetation And Blowing Snow Susceptibility Index	Damon Grabow Regional Weather Information Center Grand Forks, ND	
3.4.3	Advancements In GIS And Tools To Include Environmental Factors In Transportation Program And Project Delivery	Kimberly Majerus FHWA-Resource Center Fields, IL	Patrick Crist Nature Serve Washington, DC

CONCURRENT SESSION 4


1:30 PM TUESDAY, MARCH 27


4.1	Google Earth GIS		Capitol I
	Moderator: Lindsay Banks, FHWA		
4.1.1	Enterprise Wide Imagery Access & Management Technology For Transportation Agencies	Tom Schoblaski, Antonio Montoya Intergraph Englewood, CO	
4.1.2	Displaying Collected Pavement Distress And Asset Data Using Google Earth Provides Accurate Visual Representation And Spatial Analysis Capabilities	Michael Nieminen, Debbie Burns Roadware Group Inc. Paris, Ontario, Canada	
4.1.3	Google Earth Implementation At Caltrans	Roger Ewers California Department of Transportation Sacramento, CA	
4.2	GIS-T Research		Salon B&C
	Moderator: Bruce Spear, Cambridge Systematics, Inc		
4.2.1	TRB Grand Challenge in GIS-T	Reg Souleyrette Iowa State Univ. Ames, IA	Bruce Spear Cambridge Systematics Bethesda, MD
4.2.2	State Research Needs in GIS	Robert Fuhler Arkansas DOT Little Rock, AR	
4.2.3	Surface Transportation Environment and Planning Cooperative Research Program (STEP), for GIS	Mark Sarmiento FHWA Washington, DC	
4.2.4	Exploratory Advanced Research (EAR) Program on GIS-T	Roger Petzold FHWA Washington, DC	
4.3	LRS / LRM		Capitol II
	Moderator: Bill Schuman, GeoDecisions		
4.3.1	The Next Generation Transportation Road Network	Ron Cramer, Bruce D'Autremont Digital Data Technologies, Inc. Columbus, OH	
4.3.2	Corridor-Wide Transportation Management: Development Of An LRS Based Network	Yushuang Zhou, John Lewis, Siddharth Pandit Cambridge Systematics Oakland, CA	
4.3.3	Discussion Of Iowa DOT's Linear Referencing	Steve Kadolph, Eric Abrams Iowa DOT Ames, IA	
4.4	MPO GIS		Salon A
	Moderator: Ernie Ott, Citilabs, Inc.		
4.4.1	 Using 3D Stereo Data In The Estimation Of Construction Quantities And Costs	Donald Reid Metropolitan Government of Nashville – Davidson County, Public Works Department Nashville, TN	Jeff Deason Collier Engineering
4.4.2	 Factors Affecting The Quality And Accuracy Of A Street Centerline Dataset, And The Impact On Public Works And ROW Operations In Metro Nashville - Davidson County	Donald Reid Metropolitan Government of Nashville – Davidson County, Public Works Department Nashville, TN	Lonnie Hearne SimWright, Inc.
4.4.3	Development Of An Automatic Conflation Tool To Integrate Transportation Line Layers	Francisco J. Torres, P.E. North Central Texas Council of Governments Arlington, TX	

The  symbol indicates a session from Tennessee, the Host State.

CONCURRENT SESSION 5


3:30 PM TUESDAY, MARCH 27


5.1	Database Design			Salon A
Moderator: Hubo Cai, Western Michigan University				
5.1.1	Integrating Transportation Models And GIS-T Applications: Challenges And Opportunities	Ernest K. (Ernie) Ott Citilabs, Inc. Redlands, CA		
5.1.2	Using Oracle Spatial To Address Today's Transportation Issues	George Nace PennDOT Harrisburg, PA	Doug Argall GeoDecisions Harrisburg, PA	
5.1.3	Migrating To ArcGIS Server	Teague Buchanan Georgia Department of Transportation Atlanta, GA		
5.2	Safety / Traffic			Capitol I
Moderator: Gwen Ford, City of High Point, North Carolina				
5.2.1	Developing A "One Stop" ArcIMS Application For High Accident Location (HAL) Management	Charlie Jones City of Charlotte DOT Charlotte, NC		
5.2.2	New York State Accident Location Information System – Analyzing The Past To Provide A Safer Future	David Lewis ESRI Redlands, CA	Kevin Hunt NYS DOT Albany, NY	
5.2.3	Managing Roadway Networks And Assessing The Impact Of New Developments - Cartesoft's Concurrency Management Pro.	Louis Steenson, Randy Goss Cartesoft, LLC Jacksonville, FL		
5.3	Web Data Integration			Salon B&C
Moderator: Kaushik Dutta, Maryland State Highway Administration				
 5.3.1	Integrating Highway Data Into TDOT's TRIMS GIS Database	Ray Mandli Mandli Communications, Inc. Oregon, WI	Karin Goodwin Intergraph Madison, AL	
5.3.2	Providing A Multi-State GIS Based Cost Estimate System For Building The Appalachian Development Highway System	Jason Wang Appalachian Regional Comm. Washington, DC	Sang Yoo Appalachian Transportation Institute	
5.3.3	Virginia DOT's New Roadway Network System: An Integrated Approach To Managing And Leveraging GIS And LRS For Enterprise Data Analysis	Scott McCombe PMP VDOT IT Applications Division Richmond, VA	Albert Sarvis GeoDecisions Harrisburg, PA	
5.4	GIS Analysis			Capitol II
Moderator: Matt Laick, Delaware Dept. of Transportation				
5.4.1	Colorado DOT's Straight-line Enhanced Automated Mapping (Steam) System	Allen Ibaugh, Bryan McFadden Data Transfer Solutions, LLC Orlando, FL		
5.4.2	Straight Line Diagramming For Transportation Linear Data	James O. Brown Intergraph Brandon, MS		
5.4.3	Multilevel Linear Referencing And Temporal Data Management	Bruce Aquila, Phil Hardy Intergraph Corporation Huntsville, AL		

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CONCURRENT SESSION 6

10:30 AM WEDNESDAY, MARCH 28

6.1	GIS Databases		Capitol II
	Moderator: Ed Kelley, Nebraska Department of Roads		
6.1.1	A Geodatabase Design That Supports Both Transportation Planning and Travel Demand Modeling	Brian Hoeschen Carter & Burgess, Inc. Denver, CO	Ratna Korpella Maricopa Association of Govts Phoenix, AZ
6.1.2	HAS-GIS Interface: Build An Enterprise Geodatabase At Alaska DOT&PF	Tejaswi Tharakabushanam Cambridge Systematics Oakland, CA	Bonnie Walters Alaska DOT & PF Juneau, AK
6.1.3	Implementing CDOT's Roadway Geodatabase - Theory And / Versus Reality	Lou Henefeld Colorado Dept. of Transportation Denver, CO	
6.2	Web GIS		Capitol I
	Moderator: Mark Berger, Massachusetts Executive Office of Transportation		
6.2.1	 Statewide Image Access Through Easy-To-Use Web Portal	Karin Goodwin Intergraph Corporation Huntsville, AL	Kim McDonough Tennessee DOT Nashville, TN
6.2.2	The Integrated Transportation Enterprise - South Carolina DOT's Answer To The Need For Enterprise Data Access	MaryGail Wallace Intergraph Corporation Huntsville, AL	
6.2.3	Digitizing And Thematic Mapping On Web	Jian Chen Georgia DOT Atlanta, GA	
6.3	Geocoding & Routing		Salon B&C
	Moderator: Michael Castaldo, New Jersey Dept. of Transportation		
6.3.1	Building A Unified Roadway Database For The Illinois DOT	Robert Lindquist GIS Solutions, Inc. Springfield, IL	James Kavish Illinois DOT Springfield, IL
6.3.2	Maryland Federated Centerline Data Synchronization Project – State And County's Joint Venture	Michel Sheffer Maryland State Highway Administration Baltimore, MD	
6.3.3	Investigation Of Routing Options For The Nova Scotia Road Network (NSRN)	David Loukes Opus International Consultants Canada Lt Fredericton, NB, Canada	
6.4	Planning		Salon A
	Moderator: Jim Pugh, EMH&T, Inc		
6.4.1	GIS Project Planning	Jim Pugh, GISP EMH & T Columbus, OH	
6.4.2	Moving GIS Forward At Montana DOT: How Strategic Planning Is Supporting New Initiatives	Marlin Sander Montana DOT Helena, MT	Don Kiel GeoDecisions Harrisburg, PA
6.4.3	Mapping Transportation Improvement Projects For The Use Of Planning And Public Knowledge	John Parker, Kent Smithmeyer PENNDOT Harrisburg, PA	

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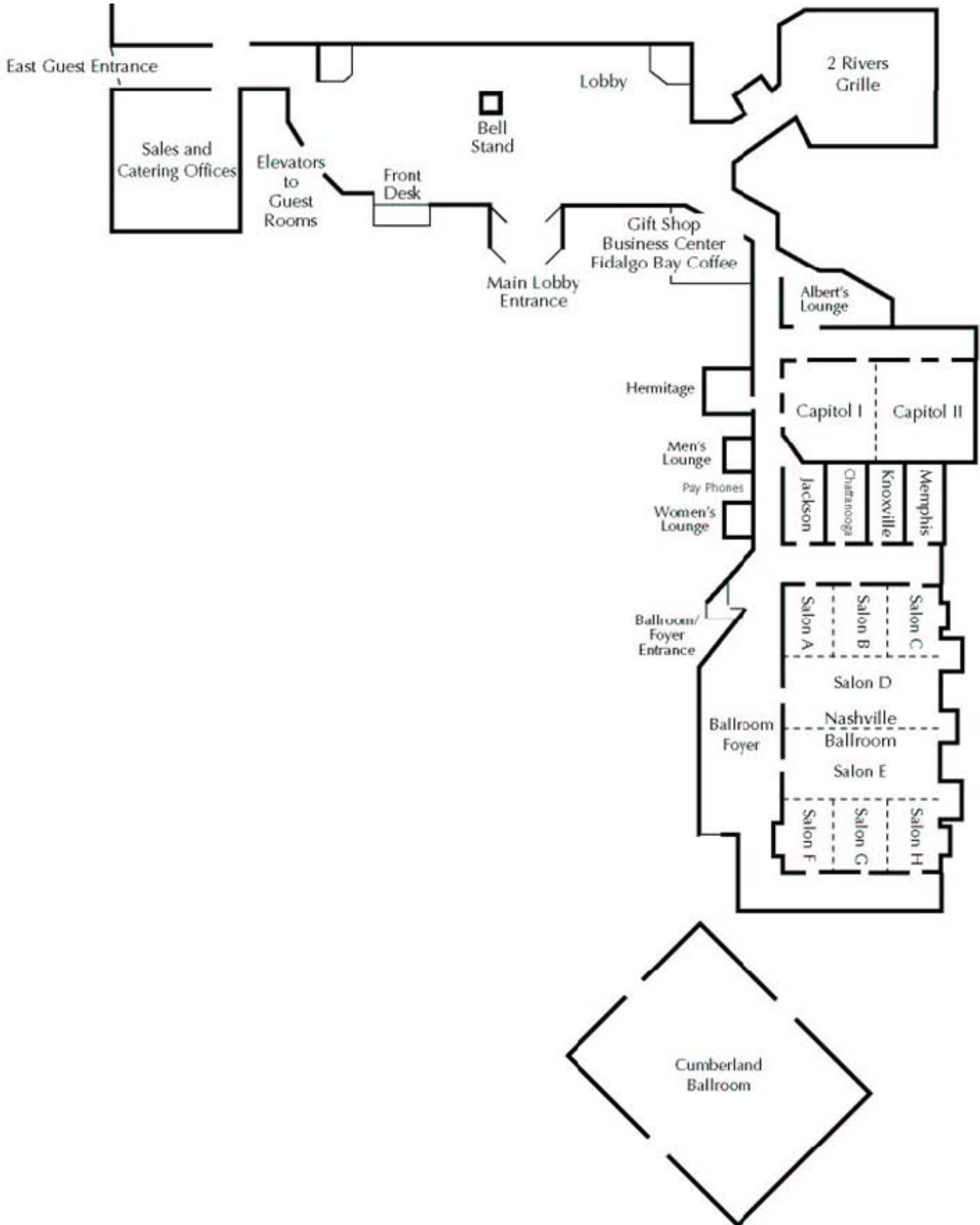
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