

**THE INSTITUTE OF ELECTRICAL/ELECTRONICS ENGINEERS
AND
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS**



**Invite You To Our Monthly Luncheon Meeting
TUESDAY, January 10th, 11:30 am**

**FUTURE
MEETINGS:**
February 14th
March 14th
April 11th
May 9th
June 13th

Speaker: Martin P. Schroeder, M.S.M.E., P.E.
Program Manager, Rail Programs
American Public Transportation Association

Topic: On the Road to Rail Car Crashworthiness Design

Place: American Public Transportation Association
Conference Room - 11th Floor
1666 K Street, NW, Washington, DC

Red Line: Farragut North (K Street Exit)
Orange/Blue Lines: Farragut West (17th Street Exit)

Date/Time TUESDAY, January 10th, 11:30 am

Lunch: \$20.00 CASH AT THE DOOR

Reservations: Gene.Cox@fra.dot.gov or 703-915-2828 (cell)
Karl Berger kwb@dcm-va.com or 703-803-7917
Ken.Briers@parsons.com or 202-775-3397
(Reservations by 4:00 PM Friday January 6th)

ABOUT THE TOPIC:
Tracing the development of finite element modeling to today's explicit codes and their capability to withstand rail Crash worthiness bumps in the road are discussed. Application of the new crash energy management technologies to rail-car design has been made possible by the low-cost availability of these explicit finite element codes. Yet, complexities in understanding the benefits and implications of this new approach have made applications challenging. What does the future look like for crash energy management, and how will analysis be performed using finite element codes ?

ABOUT THE SPEAKER:

Martin Schroeder is APTA's Senior Program Manager for Rail Programs and is currently chair of the ASME Rail Transportation Energy Management Subcommittee for Light -Rail Vehicles. Martin has extensive experience in rail car engineering including structural stress analysis, crash worthiness design, and dynamic simulation. As a consultant, Martin has co-developed unique crash energy management designs for light-rail vehicles and has provided structural consulting services to manufacturing and research organizations. He also has engineering and program management experience in such diverse fields as wind energy, aerospace and automotive technologies. He has served as an Assistant Professor of Mechanical Engineering at Western University and the University of Cincinnati. Martin holds graduate degrees in Mechanical Engineering from the University of Michigan School of Engineering and is a registered Professional Engineer.



IEEE/ASME Land Transportation Committee SPECIAL NOTES:

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**IEEE/ASME
Land Transportation Committee
10718 Oakenshaw Court
Burke, VA 22015**



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**Invite You To Our Monthly Luncheon Meeting
TUESDAY, February 14th, 11:30 am**

Speaker: Radovan Sarunac, PhD, Booz Allen Hamilton, Washington, DC

Topic: Vehicle Crashworthiness Design and Verification – Lessons Learned

Place: American Public Transportation Association
Conference Room - 11th Floor
1666 K Street, NW, Washington, DC
Red Line: Farragut North (K Street Exit)
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Ken Briers ken.briers@parsons.com 202-775-3397
(Reservations by 4:00 PM Friday February 10th)



ABOUT THE SPEAKER:

Dr. Sarunac has more than 25 years of experience in management, mechanical/structural design (including crash energy management structures), fatigue assessment (steel and aluminum structures), vehicle dynamics, performance monitoring, derailment safety and the derailment investigations, engineering, manufacturing, testing, procurement, and quality control of rail vehicles, LRVs, DMUs and transit/transportation systems. He has more than 15 years experience in FE analysis and applications.

As a Chief Mechanical Engineer and Project/Lead Engineer for the **Washington Metropolitan Area Transit Authority (WMATA)** Vehicle Engineering Services Contract, Dr. Sarunac is assisting Authority on the newest 6000-Series car procurement, the 5000-Series car procurement, and the 2000/3000-Series Breda Metro cars overhaul/non-destructive structural assessment. His involvement in the 5000-Series procurement as Lead Engineer, includes definition of the specification requirements (structural, crashworthiness, truck design, vehicle dynamics, etc.), evaluation of the proposed vehicle systems, system integration oversight, preliminary design review, final design review, first article inspection for carbody, trucks, couplers, brakes, heating, ventilation, and air conditioning (HVAC), doors, interiors and other miscellaneous systems, and testing. He devoted special attention to innovative engineering solutions for the next generation of cars. The 5000 and 6000 series are the first cars in the WMATA fleet equipped with a state of the art crash energy management structure/system. Dr. Sarunac also conducted a comprehensive technical review of the

ABOUT THE TOPIC:

Our speaker will extend our understanding of industry trends in crashworthiness with lessons learned from the Washington Metro 5000- and 6000-series car designs. The energy-based crashworthiness (or CEM) philosophy is based on providing protection against one or more specific collision scenarios. Selection of collision scenarios is the most difficult step in this approach because there must be a rationale underlying selecting parameters such as speed, consist configuration, and impact angle. Once the accident scenario is selected, it is necessary to decide how the energy will be dissipated between various vehicles in the train and the individual ends of a vehicle. The optimized designs tend to distribute the collision energy along the entire train consist. To ensure that the passenger areas maintain a survivable volume, the passenger compartment structure should have greater strength than the crushable zones and the amount of deformation or crush required to absorb specified collision energy must be limited.

(Continued on back)

1000 and 2000/3000 series cars to assess the feasibility of implementing a crash energy management structure.

Dr. Sarunac earned a Bachelor of Science, Mechanical Engineering from the University of Zagreb, Croatia in 1977, a Master of Science, Electrical Engineering in 1980, and a Doctor of Philosophy in Mechanical Engineering, in 1988. He has been an Associate with Booz Allen Hamilton since 1998.

Dr. Sarunac is a member of the Federal Heat Transfer Board, the American Society of Mechanical Engineers (ASME), the Transportation Research Board, the Transit Cooperative Research Program, the Institute of Electrical and Electronics Engineers (IEEE) Rail Transit Vehicle Interface Standard Committee, and the American Public Transportation Association (APTA) PRESS Task Force—Structural, Wheel Design, and Wheel Rail Interface Group. He was also a member of the Panel overseeing the TCRP Task/Report #52.

IEEE/ASME Land Transportation Committee

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For those requesting information about "Perspectives on Intelligent Transportation Systems" authored by **Professor Joseph M. Sussman of MIT**, our speaker/presenter at the **December,2005 meeting**, it is published by Springer, New York, 2005 (www.springer.com)



Dr. Radovan Sarunac
Our February Speaker

(Continued from front)

Taking advantage of recent developments in the field of vehicle crashworthiness, WMATA developed and implemented new technical requirements for its newest 5000 and 6000 series vehicles. The implementation of an energy-based crashworthiness approach was divided into several logical steps. During the process, several modifications were introduced to optimize the crashworthiness and ensure structural and crashworthiness compatibility with the existing fleet. The assessment of new car design equipped with the crash energy management structure revealed that the specified requirements regarding fleet and car compatibility, energy absorption capabilities, allowable crush length, mean-to-peak force ratio, and seat design were effective. Each step was verified by incremental testing; and final design by implementing full-scale testing. Passenger injuries were assessed by using instrumented Anthropomorphic Test Devices (ATDs) and measuring forces and accelerations acting on ATDs during the crash.

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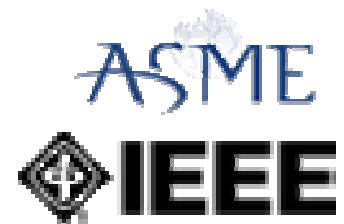
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**Invite You To Our Monthly Luncheon Meeting
Wednesday, March 15th, 11:30 am**

Speaker: N. Thomas Tsai, P.E., Ph.D., Program Manager
Office of Research and Development
Federal Railroad Administration

Topic: Research and Development at FRA, an overview:
In Progress Today and Preparing for the Future

Place: American Public Transportation Association
Conference Room - 11th Floor
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(Reservations by 4:00 PM Friday March 10th)



ABOUT THE TOPIC:

Mr. Tsai will present an overview of the current engineering activities within FRA's Office of Research and Development, which is making enormous near and long range contributions to the safety and reliability of rail transportation. He will talk about the significant enhancements being introduced that promote a reduction in the frequency and severity of accidents and the loss of life, and improved injury avoidance and mitigation for industry employees and the public. Other benefits are improved reliability and timeliness for shipments, enabling tightening of scheduling, thereby providing expansion of supply chain system capacity on a continuing basis. Direct benefits to freight shippers are reduced transit times and loss and damage claims for commodities through the harnessing of newly introduced technologies, as well as creative adaption of existing technologies. The benefits are derived in partnership with the transporting industry, passenger and freight rail-related associations, and labor organizations.
Tom has agreed to take a limited number of questions from the floor

ABOUT THE SPEAKER:

Born in China, Dr. Tsai completed his engineering education in the United States. His major technical interest is mechanical system dynamics, including shock and vibration of various structures. His professional career covers a broad range of industry and government programs.

In the area of ocean and space-based structures, he conducted and managed several major programs related to ship/submarine design and structures/fluid interactions for the Navy, the U.S. Coast Guard (USCG) and the Defense Nuclear Agency (DNA). From 1969 to 1974, he worked as a principal engineer with General Dynamics and Litton Systems in ship and ocean system design. As a naval architect, he designed advanced ships and towed systems at the Navy (1974-1977) and the USCG (1982-1985). At DNA between 1985 and 1992, he managed a national research program on the effects of conventional and nuclear weapons on the survivability of naval vessels. In addition, from 1990 to 1992, he managed a national hypervelocity impact research program for the Strategic Defense Initiative Organization (SDIO) to evaluate the damage of space structures due to orbital debris.

In the area of rail structures, he managed a national research and development program on the dynamics of railroad freight car equipment and served as the wheel/rail interface function coordinator at the Federal Railroad Administration (FRA) from 1977 to 1982. Returning to FRA in 1992, he is now a research program manager in the areas of equipment safety. Over the years, he managed several testing programs of high-speed trains including the German ICE, the Swedish X-2000 and the Spanish Talgo trainsets. He is among the technical experts developing the first ever safety standards of passenger rail equipment at FRA.

Presently, he is the program manager on occupant protection managing a national program to improve the survivability of passengers and crew. As part of the program, he manages the full-scale crash testing of passenger rail equipment, the development of fire safety standards and emergency egress systems. He also manages research programs on light rail equipment for possible services in mainline railroads.

With a Ph.D. in Mechanical Engineering, he is a Fellow of the American Society of Mechanical Engineers and Sigma Xi. He has published over 60 technical papers in structural dynamics and organized and chaired many technical conferences. He represented the U.S. Government in technical visits to Canada, China, Japan and several NATO countries.

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N. Thomas Tsai, P.E., Ph.D.
Our March Speaker

FUTURE MEETINGS:

April 11th, Tuesday: David Hughes, President, Amtrak
May 10th, Wednesday: Paul Elman, P.E., Deputy Project Director Dulles Corridor Metro Rail Project Virginia Department of Rail and Public Transportation (DRPT)
"The Metro-Dulles Project ... a Work in Progress"
June 13th, Tuesday To be announced

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Topic: Research and Development at FRA, an overview: In Progress Today and Preparing for the Future



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**Invite You To Our Monthly Luncheon Meeting
Tuesday, April 11th, 11:30 am**



Speaker: David Hughes
Acting President and Chief Executive Officer
National Railroad Passenger Corporation

Topic: Where we are headed
Progress Today and Preparing for the Future

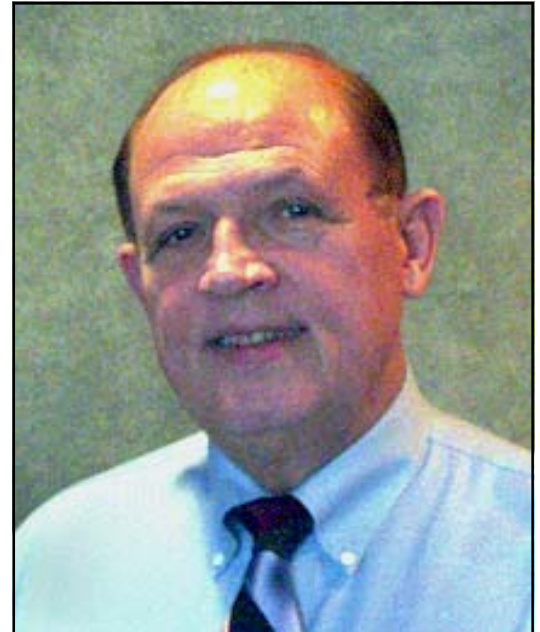
Place: American Public Transportation Association
Conference Room - 11th Floor
1666 K Street, NW, Washington, DC

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Date/Time Tuesday, April 11th, 11:30 am

Lunch: \$20.00 CASH AT THE DOOR

Reservations: Karl Berger kwb@dcm-va.com 703-803-7917
Ken Briers ken.briers@parsons.com 202-775-3397
(Reservations by 4:00 PM Friday April 7th)



ABOUT THE SPEAKER:

Appointed November 9, 2005, David Hughes directs America's intercity passenger rail system serving approximately 65,000 passengers each day on a system covering more than 500 stations in 46 states aboard 265 trains over a 22,000-mile system.

Previously, David was Chief Engineer of Amtrak since August 2002.

Mr. Hughes has over 30 years of experience in the class I railroad industry, regional railroads and the railway supply industry. During that time, he held numerous industry posts, including serving as a Director of the Association of American Railroads. He was a founder and first Chairman of Regional Railroads of America, a group representing the regional railroad industry in Washington and served as the Chairman of the Maine Chamber of Commerce and Industry. Prior to joining Amtrak, he provided consulting services for over ten years in railroad operations and maintenance in the U.S., Europe, Asia, Australia, Africa, Mexico and South America.

David graduated from the University of Texas at El Paso with a degree in Civil Engineering and holds an MBA from the Harvard Business School.

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David Hughes

FUTURE MEETINGS:

May 10th, Wednesday:

Paul Elman, P.E.,

Deputy Project Director Dulles Corridor Metro Rail Project

Virginia Department of Rail and Public Transportation (DRPT)

"The Metro-Dulles Project ... a Work in Progress"

June 13th, Tuesday

To be announced

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Speaker: David Hughes
Acting President and Chief Executive Officer
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Topic: Where we are headed
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Invite You To Our Monthly Luncheon Meeting
Wednesday, May 10th, 11:30 am

Speaker: Paul Elman, P.E.
Deputy Project Director
Dulles Corridor Metrorail Project
Virginia Department of Rail and Public
Transportation (DRPT)

Topic: The Dulles Corridor Metrorail Project
... a Work in Progress

Place: American Public Transportation Association
Conference Room - 11th Floor
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Note the change to
Wednesday!

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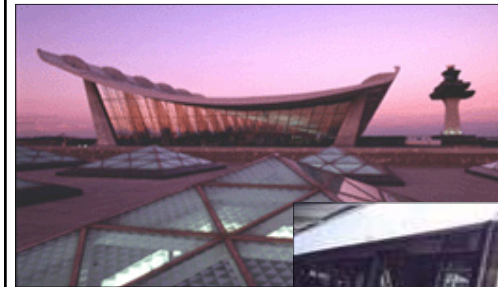
ABOUT THE SPEAKER:

Mr. Paul D. Elman, P.E. is currently serving as Deputy Project Director for the Dulles Corridor Metrorail Project with the Virginia Department of Rail and Public Transportation (DRPT). In this position, Mr. Elman currently manages all facets of the preliminary engineering development currently underway for the proposed 23-mile extension of Metrorail in Northern Virginia.

Prior to joining DRPT, Mr. Elman spent over 10 years as Senior Project Manager for the Parsons Transportation Group, managing transportation infrastructure projects for such public sector clients as WMATA, VDOT, FTA, FHWA, DDOT and SHA. With the Rail Transit Systems Division of Parsons, Mr. Elman served as lead firm representative with the Capital Transit Consultants consortium performing all engineering consultant and design services for WMATA. In this capacity,

Mr. Elman managed preliminary engineering design and advance final design contracts for the Largo Metrorail Extension and previously the General Engineering Consultant contract for WMATA. Prior to joining Parsons, Mr. Elman spent several years overseeing large-scale commercial and residential land development projects for private-sector clients in Northern Virginia and New Jersey.

Mr. Elman is an active member of the American Society of Civil Engineers, and completed the Leadership APTA program for the future leaders of the transit industry. Mr. Elman is a registered professional engineer in four jurisdictions, holds a Bachelors of Science degree in Civil Engineering from the George Washington



University and a Masters in Engineering Administration degree from Virginia Tech.



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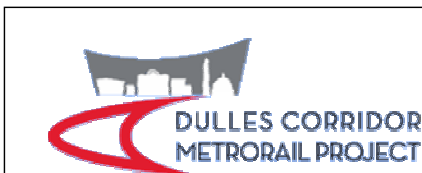
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- **In June we will return to a Tuesday meeting day.**

FUTURE MEETINGS:

June 13th, Tuesday To be announced

For more information about the Land Transportation Committee see our website at www.ieee.org/dc-ltc



Paul Elman

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Speaker: Paul Elman, P.E.
Deputy Project Director
Dulles Corridor Metrorail Project
Virginia Department of Rail and Public Transportation (DRPT)

Topic: The Dulles Corridor Metrorail Project
... a Work in Progress



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Invite You To Our Monthly Luncheon Meeting
Wednesday, June 21st, 11:30 am

**Note the change to
Wednesday!**

Speaker: Graham Truelove,
Senior Systems Analyst
Fulcrum Corporation
Fairfax, VA

Topic: Shortline Railroad Asset Tracking
with GPS-enabled Cell Phones

Place: American Public Transportation Association
Conference Room - 11th Floor
1666 K Street, NW, Washington, DC

Red Line: Farragut North (K Street Exit)
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Ken Briers ken.briers@parsons.com 202-775-3397
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**Note the change to
Wednesday!**



ABOUT THE SPEAKER:

Graham Truelove is a Senior Systems Analyst at Fulcrum Corporation in Fairfax, Virginia with more than 20 years of professional experience in software engineering and system integration. He is currently supporting the Federal Railroad Administration's Office of Research and Development and Office of Safety in the areas of program management and technology development. He has a BA in Mathematics from the University of Virginia and has presented a number of technical papers at railroad and transportation security conferences. .



ABOUT THE TOPIC:

The Federal Railroad Administration (FRA) Office of Research and Development has sponsored the development of an asset tracking and mapping system designed to help the short line railroad industry improve safety and railroad operations. The Asset Tracker system was developed in conjunction with the Railroad Traffic Planner scheduling tool with the goal of researching improvements to overall operational safety and efficiency by reducing unnecessary voice communications with locomotive personnel. Fulcrum Corporation's development of the Asset Tracker system demonstrates the first cost-effective, real-time tracking solution for short line railroad assets. The Asset Tracker is built using off-the-shelf cellular phone technologies and displays locomotive and maintenance-of-way (MoW) vehicle positions and status information through any Internet web browser. Further research and development is currently underway to evaluate the effectiveness of cellular communications in supporting hazardous material tank car transportation monitoring and alerting using an array of low-cost sensors.



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karl.berger@dcm-va.com.

FUTURE MEETINGS:

Closed for the summer.

September 12, 2006 Tuesday; Details to be announced

NEW: See more about the

Land Transportation Committee at

our website: <http://www.ieee.org/dc-ltc>



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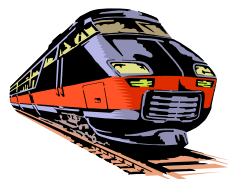
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Tuesday, September 12th, 11:30 am

Speaker: John J. Collins
Vice-President for ITS and Telematics
Traffic.com, Inc.
Wayne, PA

Topic: Advanced Traveler Information Systems

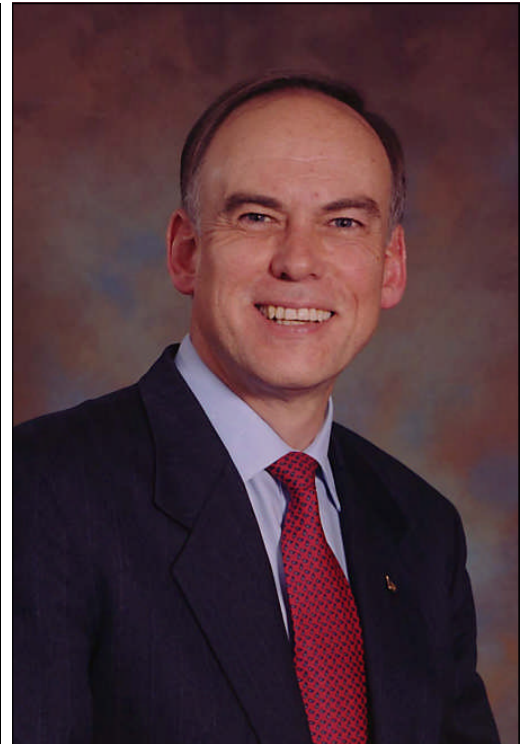
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(Reservations by 4:00 PM Friday September 8th)



ABOUT THE SPEAKER:

John Collins coordinates deployment of the Traffic.com's traffic sensor network and manages the telematics line of business. He is point person for the company on its traveler information deployment contract with USDOT and its state partners.

Prior to joining the company, Mr. Collins was President and CEO of ITS America. With more than 900 members, a staff of 45 and an annual budget of \$9 million, ITS America provides a "big tent" where the people involved in intelligent transportation systems can work together to deploy beneficial technologies.

Prior to joining ITS America, Mr. Collins had his own consulting firm, *Transportation Law and Strategy*, representing clients in issues involving federal transportation legislation and regulations. The firm also provided strategic advice to transportation industry companies.

Before starting his own firm, Mr. Collins was the Senior Vice President for Government Affairs at the American Trucking Associations, Inc. ("ATA"). He was responsible for supervising a staff of 60 and developing and promoting ATA's policy views on issues involving transportation technology, truck safety and productivity, economic regulation, environmental issues, intermodal and international issues, labor policy matters, tax policy and highway infrastructure.

Mr. Collins was Assistant General Counsel at the United States Department of Transportation for seven years, prior to joining ATA. In that position he was responsible for a \$22 billion a year legislative program that included aviation, highway, maritime, railroad and transit safety issues. He also held various positions with the agency that is now the Federal Transit Administration.

ABOUT THE TOPIC:

This presentation will provide an overview of an advanced traveler information system that is being deployed in 21 areas across the country under contract to FHWA. The contractor, Traffic.com, will describe how data gaps are being filled by commercially deployed sensors, how government data is integrated, and how the information is made available to public agencies and the public. Better information on highway congestion can encourage travelers to use transit.

The system uses a wide variety of technologies to get data from the field into the users' hands including: solar powered, non-intrusive sensors; wireless modems linked to a central processing facility by the internet; a multi-tiered data base for scalability; and dissemination by satellite, TV, radio, phone, web, email, and telematics devices. The web site provides links to transit services.

He is a frequent speaker on transportation issues and has testified before Congress on ways to improve transportation safety and productivity.

Mr. Collins' professional background is in both engineering and law. He received a degree in mechanical engineering from Princeton University and a law degree from Temple University. This background enables him to grapple with technical and legal issues that affect the transportation industry.

Mr. Collins is a member of the bar of the United States Supreme Court, the State of Pennsylvania and the District of Columbia.

IEEE/ASME Land Transportation Committee

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FUTURE MEETINGS:

October 17, 2006
November 21, 2006
December 12, 2006

See more about the
Land Transportation Committee at
our website: <http://www.ieee.org/dc-ltc>

Tentative dates for 2007 (second Tuesday):

January 9
February 13
March 13
April 10
May 15
June 12



**THE INSTITUTE OF ELECTRICAL/ELECTRONICS ENGINEERS
AND THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS**

Invite You To Our Monthly Luncheon Meeting
Tuesday, September 12th, 11:30 am

Speaker: John J. Collins
Vice-President for ITS and Telematics
Traffic.com, Inc.
Wayne, PA

Topic: Advanced Traveler Information Systems



NEED MORE INFORMATION? CALL AN OFFICER!

Chairman:

Gene Cox: (temporarily unavailable)

Vice-Chairman:

Karl Berger karl.berger@dcm-va.com 703-803-7917

Secretary/Treasurer:

Ken Briers ken.briers@parsons.com 202-775-3397

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IEEE/ASME
Land Transportation Committee
5667 Stone Road #465
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FIRST CLASS

Land Transportation Committee

October 17, 2006

Biography

Ms. Lois L. Walker is President of Virginians for High Speed Rail (VHSR). VHSR is a private, not-for-profit, statewide education and advocacy group. VHSR supports modern passenger rail and transit solutions to relieve worsening highway congestion, to augment limited and costly air travel, and to overcome other inhibitors of regional competitiveness, convenience, and quality of life.

Lois is also President of Walker Real Estate in Alexandria, Virginia. She is very active in public service to her community in a variety of cultural and business organizations and has served two terms on the Alexandria City Council. She currently serves on the Alexandria Transportation Committee and is a member of the Virginia Municipal League's Transportation Policy Committee.

She has attended George Washington University, Corcoran Art School, Valpariso University, and the Northern Virginia Community College.

Topic

Virginia is faced with a compelling need to find and develop new and additional transportation solutions. These solutions must be cost-effective, energy-efficient, environmentally friendly, and realistically achievable. Rail, especially inter-city passenger rail and freight rail, offers the most ready and effective means to achieve new transportation solutions.

As an effective agent of constructive change, Virginians for High Speed Rail (VHSR) seeks to bring about a seamless, fully developed and integrated network of transportation options for Virginia residents and visitors. VHSR believes a modest shift in state transportation policy will enable the Commonwealth to fully and appropriately exploit the inherent advantages of all modes of transportation, including High Speed Rail and supporting networks.

Our speaker will describe initiatives taken by the VHSR to promote high speed rail corridors and will highlight some near term opportunities.

**THE INSTITUTE OF ELECTRICAL/ELECTRONICS ENGINEERS
AND
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**Invite You To Our Monthly Luncheon Meeting
Tuesday, November 21st, 11:30 am**

Speaker: CLAIRE L. ORTH
Chief
Equipment and Operating Practices
Research Division
Office of Research & Development
Federal Railroad Administration

Topic: Passenger Rail Car And Locomotive
Occupant Protection Programs

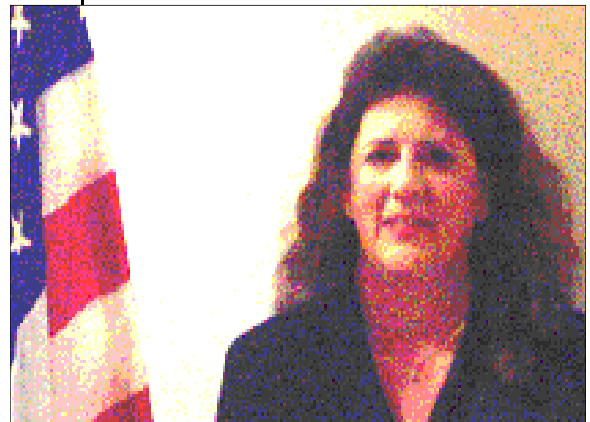
Place: American Public Transportation Association
Conference Room - 11th Floor
1666 K Street, NW, Washington, DC

Red Line: Farragut North (K Street Exit)
Orange/Blue Lines: Farragut West (17th Street Exit)

Date/Time Tuesday, November 21st, 11:30 am

Lunch: \$20.00 CASH AT THE DOOR

Reservations: Karl Berger kwb@dcm-va.com 703-803-7917
Ken Briers ken.briers@parsons.com 202-775-3397
(Reservations by 4:00 PM Friday November 17th)



ABOUT THE TOPIC:

This presentation will provide an overview of the current passenger rail car and locomotive occupant protection programs at the Federal Railroad Administration (FRA). Since the 1990's, the FRA's Office of Research and

Development (R&D) has worked to better protect the occupants of locomotives railcars.

There have been major efforts in the last 10 years to improve the crashworthiness of rail vehicles. Transportation Technology Center, Inc. (TTCI) has been at the forefront of carrying out full-scale impact tests on passenger rail cars and locomotives for the FRA's Office of Research and Development.

The discussion will focus on the purpose of these programs and the tests conducted to date. The main objective of these tests was to measure strains, accelerations and displacements of the test vehicles during impact so that computational and kinematic models of the impact can be validated. For the passenger rail car tests, crash energy management concepts have been tested. Video clips of the tests will be shown.

ABOUT THE SPEAKER:

Ms. Claire Orth is the Chief, Equipment and Operating Practices Research Division, in the Office of Research and Development, leading a staff of 9 Professionals and 1 Administrative Assistant. Programs include Train Occupant Protection (passenger rail car and locomotive crashworthiness), Rolling Stock Safety (bearings, brakes, wheels, couplers, draft gears, etc.), Human Factors (train operations, fatigue, grade crossings), Hazardous Materials (tank cars, non-destructive evaluation), and Railroad System Issues (system safety, performance-based regulations, security, locomotive R&D). The budget for these programs is over \$15M.

Ms. Orth joined the Federal Railroad Administration in November 1978 as a research engineer in the Office of Research and Development. She managed a number of projects including technical evaluation of Rail Vehicles and Maintenance of Way Equipment, evaluation of Lading Loss and Damage, and Economics of Tie Replacement. In 1979 she was selected as the senior engineer for the Vehicle Dynamics Safety Program, which included the joint government-industry Track Train Dynamics Program and validation testing of computer simulation models for the 70-ton boxcar. In 1983 Ms. Orth was selected as the senior research manager for the Hazardous Materials Program. This work included testing of planned derailments using intermodal TOFC/COFC train consists as well as tank car puncture resistance and fire survivability. She also managed the project Ensuring Tank Car Safety. In 1989, Ms. Orth was promoted to the position of Division Chief for the Equipment and Operating Practices Research Division. From May 1994 through May 1995, she served as the Acting Director, Office of R&D, which included the Next Generation High-Speed Rail Program.

Ms. Orth started her Federal career in 1971 as a Mechanical Engineer with the Mobility Equipment Research & Develop-

ment Command, Ft. Belvoir, VA working on Logistics-Over-the-Shore projects, including Soil Stabilization for Mobility of Material Handling, Construction Equipment, and Container Handling Equipment. She co-authored three technical reports on Beach Mobility Testing of Large Container Handling Vehicles and three technical notes on Mobility Prediction Techniques for Rough Terrain Materials Handling Equipment. In 1978, she was nominated for the Commander's Award for Scientific Achievement.

Ms. Orth has a BS in Aerospace Engineering from VPI and a Masters in Engineering Administration from GWU. Ms. Orth was actively involved in the Women's Transportation Seminar and served as the DC Chapter President for 2 years. She served on the TRB's Transportation of Hazardous Materials Committee from 1987 to 1996. Ms. Orth has been a Member of ASME since 1982 and has presented papers at various ASME conferences and served as Session Chair at the Winter Annual Meeting.

IEEE/ASME Land Transportation Committee

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December 12, 2006

Tentative dates for 2007 (second Tues-

day): January 9
February 13
March 13
April 10
May 15
June 12

NEW: See more about the Land Transportation Committee at our website: <http://www.ieee.org/dc-ltc>



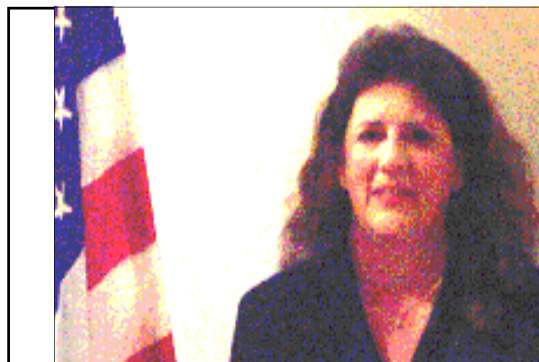
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Invite You To Our Monthly Luncheon Meeting

Tuesday, September 12th, 11:30 am

Speaker: CLAIRE L. ORTH
Chief, Equipment and Operating Practices
Research Division
Office of Research & Development
Federal Railroad Administration

Topic: Passenger Rail Car And Locomotive Occupant Protection Programs



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Land Transportation Committee
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Burke, VA 22015



FIRST CLASS

**THE INSTITUTE OF ELECTRICAL/ELECTRONICS ENGINEERS
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**Invite You To Our Monthly Luncheon Meeting
Tuesday, December 12th, 11:30 am**

Speaker: Larry Light, P.E.
Senior Director, New Technologies
Amtrak

Topic: Advanced Civil Speed Enforcement System
and
Incremental Train Control System

Place: American Public Transportation Association
Conference Room - 11th Floor
1666 K Street, NW, Washington, DC

Red Line: Farragut North (K Street Exit)
Orange/Blue Lines: Farragut West (17th Street Exit)

Date/Time Tuesday, December 12th, 11:30 am

Lunch: \$20.00 CASH AT THE DOOR

Reservations: Karl Berger kwb@dcm-va.com 703-803-7917
Ken Briers ken.briers@parsons.com 202-775-3397

(Reservations by 4:00 PM Friday December 8th)



ABOUT THE TOPIC:

Mr. Light will speak on the current status of ACSES (Advanced Civil Speed Enforcement System) and ITCS (Incremental Train Control System). ACSES uses imported European transponders to enhance the existing Automatic Train Control System in the Northeast Corridor. This unique blend of two very reliable tried and proven systems to achieve full Positive Train Control (PTC) was required for 150 MPH operation in the NEC.



ITCS is a new communications-based system overlaid on the existing fixed (wayside) signal system on Amtrak's Michigan Line, a 70-mile portion of the Chicago-Detroit Corridor. The immediate goal of this project is to raise the maximum speed of Amtrak trains in a 70-mile portion of the Chicago-Detroit Corridor from 79 MPH to 110 MPH. The long-range goal is to develop the state of the art for the "emerging corridors" such as

FUTURE MEETINGS:
January 9
February 13
March 13
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June 12

ABOUT THE SPEAKER:

L. E. (Larry) Light is currently Senior Director, New Technologies at Amtrak. He is now involved in two active Amtrak train control systems, ACSES in the Northeast Corridor, ITCS in a Midwest Corridor, and a joint effort with other carriers to develop a universal, on board platform to facilitate train control operation on multiple emerging systems in North America.

Mr. Light received a B.S. Degree in Electrical Engineering from Bucknell University and did some graduate work in Computer Science at the University of Pennsylvania. He is a Registered Professional Engineer in Pennsylvania. Larry went to work for the Pennsylvania Railroad on July 1, 1957, and has worked his way through various positions on the PRR, Penn Central, Conrail and Amtrak. He has worked extensively with freight, commuter, inter-city, and high speed rail services, with the signal and train control systems to serve these diverse services, and in both electrified and non-electrified environments.

the Midwest Initiatives out of Chicago as the hub. On these lines there is currently no cab signal infrastructure, and there are many highway grade crossings, the two most challenging areas for signaling and train control in the development of higher speed passenger services.

ACSES has been under development since 1992, and ITCS since 1995, giving Amtrak a wealth of experience in what has worked, and what has not worked, in the search for improved safety for higher speed trains.