Welcome to the 12th National Light Rail Conference. The conference will show decision-makers in mid-sized metropolitan regions how investments in light rail and streetcars have been addressed and can continue to address the greatest deficiency of transit in modern America: *The failure to connect Americans to jobs, which now overwhelmingly are in the suburbs.* Conference sessions will showcase the positive results being experienced in metropolitan areas that have embraced light rail and streetcar; and similarly, show how other metropolitan areas that have rejected these modes of transportation have fared.

This conference explores new ways to plan, design, construct, maintain, and operate light rail and streetcar systems. The host for this conference is the Utah Transit Authority, a showcase of innovation in public transportation. UTA is proud to share with you how its integrated rail transit system is connecting cities and suburbs with its communities.
The Utah Transit Authority (UTA) operates in a six-county area known as the Wasatch Front. Serving a 1,400 square mile area and 80 percent of Utah’s population, UTA provides nearly 40 million rides per year. The agency operates nearly 600 fixed-route buses, 35 miles of light rail and 44 miles of commuter rail, as well as demand-response and rideshare services. In December 2012, UTA will open an additional 45 miles of commuter rail service between Provo in Utah County and downtown Salt Lake City. Next year, UTA will open another eight miles of light rail service with the debut of its Airport and Draper lines, and it will open Utah’s first modern streetcar line with service between Salt Lake City’s Sugar House District and the City of South Salt Lake.
November 12, 2012

Welcome to the 12th annual APTA/TRB National Light Rail and Streetcar Conference. Salt Lake City is honored to host this innovative conference which gathers hundreds of transit agencies and professionals to the beautiful Grand America hotel.

Utah Transit Authority is pleased to co-host this conference, which will highlight the positive results in metropolitan areas that have embraced light rail and streetcar and explore new ways to plan, design, construct and operate these systems.

While you're here, we encourage you to enjoy several of our many fine restaurants, as well as our historic, cultural and scenic attractions. Of course, we urge you to enjoy all that Salt Lake City has to offer through the use of our world class, progressive transit system.

Best wishes for a wonderful conference.

Warmest Regards

Ralph Becker
Mayor

November 12, 2012

On behalf of the Utah Transit Authority, it’s my pleasure to welcome you to the 12th annual National Light Rail Conference. We are honored to serve as the host transit agency for this exciting and visionary gathering.

While you are here in our beautiful capital city, you will see what happens when a community chooses to embrace rail transit as a means of promoting mobility and economic vitality. Since UTA’s first light rail line opened in 1999, Wasatch Front residents have clamored for more rail transit in order to meet the area’s ever-growing transportation needs. UTA has worked to meet the public demand and, in just over a decade, the agency’s rail system has grown from a 15-mile, single light rail line to a 40-mile, multi-line light rail system and a 45-mile commuter rail line.

UTA isn’t quite finished yet, as we are set to open a 44-mile commuter rail extension next month. Two additional light rail projects, the Airport and Draper lines, will also open next year, as will our first streetcar rail line in Sugar House.

Besides light rail and commuter rail, UTA is proud to offer fixed-route bus, bus rapid transit, and paratransit services. I invite you to try out our system during your stay and use it to explore the many vibrant communities in the region.

Again, welcome to Salt Lake, and we hope to see you riding the rails during your stay.

Michael A. Allegra
General Manager
Utah Transit Authority
12th National Light Rail Conference  
co-sponsored by

**APTA** is a nonprofit organization of over 1,500 member organizations including transit systems, product and service providers, planning, design, construction and financing firms, academic institutions, and state transit associations and departments of transportation. APTA’s mission is to serve and lead its diverse membership through advocacy, innovation, and information sharing to strengthen and expand public transportation. APTA has a vision for the future – be the leading force in advancing public transportation.

**TRB** is a unit of the National Research Council, a private nonprofit institution that is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. Under a congressional charter granted to the National Academy of Sciences, the National Research Council provides scientific and technical advice to the government, the public, and the scientific and engineering communities.
General Information

Registration
The conference registration desk, located in Imperial Ballroom Reception C, First Floor in the Grand America Hotel, is staffed the following times:

Sunday, Nov. 11  8 a.m. – 6 p.m.
Monday, Nov. 12  7 a.m. – 5 p.m.
Tuesday, Nov. 13  7 a.m. – 1 p.m.

UTA Bus Transportation to Airport
On Tuesday afternoon, UTA is providing bus transportation from the hotel to SLC Intl. Airport. Please meet in the Grand America Hotel Lobby ten minutes before the departure times:

1:30 p.m. depart hotel; 2 p.m. arrive at airport
4:45 p.m. depart hotel; 5:15 p.m. arrive at airport

Host Information Desk
UTA has a general information desk in the conference registration area in the Imperial Ballroom Reception C, First Floor in the Grand America Hotel. Host staff is available Sunday through Tuesday to answer any questions you may have regarding local sites, restaurants, social, and cultural activities, and to provide transportation information and maps. The host information desk is open the same hours as the conference registration desk.

Moderators/Speakers Room
The Tuscany Room, Third Floor in the Grand America Hotel has been reserved daily Sunday through Tuesday. Moderators are encouraged to meet informally with their speakers to go over last-minute details prior to the start of their sessions. The room is open the same hours as the conference registration desk.

Thank You To Our 12th National Light Rail Conference Sponsors
- Gannett Fleming, Inc.
- LTK Engineering Services
- Parametrix, Inc.
- Parsons Brinckerhoff
- Ratp Dev America
- Stacy and Witbeck, Inc.
- UTC Ras, Inc.

Conference registrants bags compliments of Ratp Dev America.

Please Wear Your Badge
Conference badges are required for all business sessions, committee meetings, technical tours, meal functions, and receptions.

Dress Code
Business casual dress is appropriate throughout the conference.

Cell Phones
As a courtesy to other attendees, please turn off your cell phones and other personal mobile devices during committee meetings and business sessions.

Conference E-Circular

Sign Up for Technical Tours
All conference registrants are invited to participate in the technical tours offered by our host. Please sign up in advance of the tour of your choice at the host information desk in the conference registration area.
# 12th National Light Rail Conference

## Program-at-a-Glance

<table>
<thead>
<tr>
<th>Sunday, Nov. 11</th>
<th>Monday, Nov. 12</th>
<th>Monday, continued</th>
<th>Tuesday, Nov. 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 – 8:30 a.m.</td>
<td>7 a.m. – 5 p.m.</td>
<td>12:15 – 1:45 p.m.</td>
<td>7 a.m. – 1 p.m.</td>
</tr>
<tr>
<td>APTA Streetcar</td>
<td>- Registration Desk</td>
<td>GENERAL LUNCHEON</td>
<td>- Registration Desk</td>
</tr>
<tr>
<td>Subcommittee &amp;</td>
<td>- Host Information Desk</td>
<td>Strategies &amp; Tactics to</td>
<td>- Host Information Desk</td>
</tr>
<tr>
<td>TRB Light Rail</td>
<td>- TRB Information Desk</td>
<td>Achieve Rapid Network</td>
<td>- TRB Information Desk</td>
</tr>
<tr>
<td>Circulator</td>
<td>- TCRP Information Desk</td>
<td>Implementation</td>
<td>- TCRP Information Desk</td>
</tr>
<tr>
<td>Systems</td>
<td>Imperial Ballroom,</td>
<td>Imperial Ballroom B,</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td>Subcommittee</td>
<td>Reception C, First Floor</td>
<td>First Floor</td>
<td>Reception C, First Floor</td>
</tr>
<tr>
<td>AP075(1) Meeting</td>
<td>- Moderators/Speakers Room</td>
<td>2 – 3:30 p.m.</td>
<td>- Moderators/Speakers</td>
</tr>
<tr>
<td></td>
<td>Tuscany, Third Floor</td>
<td>Tailoring Light Rail</td>
<td>Room</td>
</tr>
<tr>
<td></td>
<td>7 – 7:30 a.m.</td>
<td>Operations to Fit the Modern</td>
<td>Tuscany, Third Floor</td>
</tr>
<tr>
<td></td>
<td>Continental Breakfast</td>
<td>Multimodal Metropolis</td>
<td>7 – 7:30 a.m.</td>
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<tr>
<td></td>
<td>Imperial Ballroom,</td>
<td>Imperial Ballroom A,</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td></td>
<td>Reception A-C, First Floor</td>
<td>First Floor</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td></td>
<td>- Moderators/Speakers Room</td>
<td>2 – 3:30 p.m.</td>
<td>7:30 – 9:15 a.m.</td>
</tr>
<tr>
<td></td>
<td>Imperial Ballroom B, First Floor</td>
<td>Community Decision Making</td>
<td>Growing Streetcar Lines</td>
</tr>
<tr>
<td></td>
<td>Imperial Ballroom, First Floor</td>
<td>Imperial Ballroom</td>
<td>from Urban Circulators to</td>
</tr>
<tr>
<td></td>
<td>Imperial Ballroom C&amp;D, First Floor</td>
<td>- LRT, Streetcars &amp; Transit-Oriented Developments</td>
<td>Metro LRT Systems</td>
</tr>
<tr>
<td>8 a.m. – 6 p.m.</td>
<td>7 – 7:30 a.m.</td>
<td>Imperial Ballroom A,</td>
<td>Imperial Ballroom A,</td>
</tr>
<tr>
<td>- Registration Desk</td>
<td>Continental Breakfast</td>
<td>First Floor</td>
<td>First Floor</td>
</tr>
<tr>
<td>- Host Information Desk</td>
<td>Imperial Ballroom,</td>
<td>- Right-of-Way Treatments</td>
<td>7:30 – 9:15 a.m.</td>
</tr>
<tr>
<td>- TRB Information Desk</td>
<td>Reception A-C, First Floor</td>
<td>to Enhance LRT &amp;</td>
<td>Right-of-Way Treatments</td>
</tr>
<tr>
<td>- TCRP Information Desk</td>
<td>Imperial Ballroom A,</td>
<td>Streetcar Operations &amp;</td>
<td>to Enhance LRT &amp;</td>
</tr>
<tr>
<td>Imperial Ballroom,</td>
<td>First Floor</td>
<td>Aesthetics</td>
<td>Streetcar Operations &amp;</td>
</tr>
<tr>
<td>Reception C, First Floor</td>
<td>Imperial Ballroom C&amp;D,</td>
<td>Imperial Ballroom C&amp;D,</td>
<td>Aesthetics</td>
</tr>
<tr>
<td>- Moderators/Speakers Room</td>
<td>First Floor</td>
<td>First Floor</td>
<td>Imperial Ballroom C&amp;D,</td>
</tr>
<tr>
<td>Tuscany, Third Floor</td>
<td>- Right-of-Way Treatments</td>
<td>First Floor</td>
<td>First Floor</td>
</tr>
<tr>
<td>9 – 10 a.m.</td>
<td>8:45 – 10:15 a.m.</td>
<td>to Enhance LRT &amp;</td>
<td>9:30 – 11 a.m.</td>
</tr>
<tr>
<td>(meet in hotel lobby at</td>
<td>What Happens When a Transit</td>
<td>Streetcar Operations &amp;</td>
<td>State-of-the-Art Light</td>
</tr>
<tr>
<td>8:30 a.m.)</td>
<td>System Does, or Does Not, Build</td>
<td>Aesthetics</td>
<td>Rail: Lessons from France</td>
</tr>
<tr>
<td>Music &amp; the Spoken Word:</td>
<td>Light Rail?</td>
<td></td>
<td>Imperial Ballroom B,</td>
</tr>
<tr>
<td>Mormon Tabernacle Choir</td>
<td>Imperial Ballroom A,</td>
<td></td>
<td>First Floor</td>
</tr>
<tr>
<td>Live TV and Radio Presentation</td>
<td>First Floor</td>
<td>11:15 a.m. – 1:15 p.m.</td>
<td>11:15 a.m. – 1:15 p.m.</td>
</tr>
<tr>
<td>(Temple Square)</td>
<td>Imperial Ballroom C&amp;D,</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>10 a.m. – 3:30 p.m.</td>
<td>First Floor</td>
<td>2:30 – 4:30 p.m.</td>
<td>2:30 – 4:30 p.m.</td>
</tr>
<tr>
<td>TRB Rail Passenger Caucus</td>
<td>Light Rail &amp; Streetcars in</td>
<td>TECHNICAL TOURS</td>
<td>TECHNICAL TOURS</td>
</tr>
<tr>
<td>- Day Three</td>
<td>Urban &amp; University Centers</td>
<td>UTA Operations &amp;</td>
<td>UTA Operations &amp;</td>
</tr>
<tr>
<td>(Off site)</td>
<td>Imperial Ballroom A,</td>
<td>Urban Development</td>
<td>Urban Development</td>
</tr>
<tr>
<td>4 – 5:30 p.m.</td>
<td>First Floor</td>
<td></td>
<td>(Off site)</td>
</tr>
<tr>
<td>TRB International LRT</td>
<td>10:30 a.m. – 12 p.m.</td>
<td>1:30 AND 4:45 p.m.</td>
<td>1:30 AND 4:45 p.m.</td>
</tr>
<tr>
<td>Development Subcommittee</td>
<td>Light Rail &amp; Streetcars in</td>
<td>UTA bus transportation</td>
<td>UTA bus transportation</td>
</tr>
<tr>
<td>Meeting</td>
<td>Urban &amp; University Centers</td>
<td>from hotel to airport</td>
<td>from hotel to airport</td>
</tr>
<tr>
<td>Audubon, Third Floor</td>
<td>Imperial Ballroom A,</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**12th National Light Rail Conference**

**Sustaining the Metropolis:**
LRT & Streetcars for Super Cities

**Sunday, November 11**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 – 8:30 a.m.</td>
<td>Audubon, Third Floor</td>
<td>APTA Streetcar Subcommittee &amp; TRB Light Rail Circulator Systems Subcommittee AP075(1) Meeting</td>
</tr>
</tbody>
</table>
| 8 a.m. – 6 p.m. | Imperial Ballroom, Reception C, First Floor | - Registration Desk  
- Host Information Desk  
- TRB Information Desk  
- TCRP Information Desk  
- Moderators/Speakers Room |
| 9 – 10 a.m.   | Temple Square (meet in hotel lobby at 8:30 a.m.) | Music & the Spoken Word:  
Mormon Tabernacle Choir Live TV and Radio Performance  
This is an off-site event at Temple Square, approximately a 15-20 minute walk from the Grand America Hotel. A block of 100 seats has been reserved for conference registrants. All persons must be seated for the performance by 9 a.m.  
All attendees must enter the Tabernacle through Door 18, located on the north side of the building. Guest service missionary ushers positioned at that door will help direct guests to reserved seating inside the hall. |
| 10 a.m. – 3:30 p.m. (Off site) | | TRB Rail Passenger Caucus – Day Three  
Open to all conference registrants.  
FrontRunner to Ogden, LRT to Jordan River Service Center and return. Presentations en route. Call (610) 306-3066 for further information. |
Sunday, continued

4 – 5:30 p.m.
Audubon, Third Floor

TRB International LRT Development Subcommittee
AP075(3) Meeting

5:30 – 7:30 p.m.
Grand Ballroom A&D,
First Floor

Opening Reception

Enjoy the hospitality of our opening reception. Meet old and new
friends and network with your transit industry peers while
examining the displays in the showcase. There’s no better way to
keep up with what’s happening than the informal, relaxed
ambiance of the opening reception – the official conference
kickoff.

Reception sponsored by
Parsons Brinckerhoff.

5:30 – 7:30 p.m.
Grand Ballroom A&D,
First Floor

Light Rail & Streetcar Products and Services
Showcase

Back by popular demand! The manufacturers, suppliers, and
consultants to the light rail and streetcar industry are coming
together to display their products and showcase their services.
We’ve sure you’ll enjoy walking the aisles and speaking with
representatives of these companies to find out more about how
they can help solve your particular problems or provide just what
you need. As we envision an influx of new funding and new
projects, our vendors will play a crucial role in our vision to
expand light rail and streetcar services. Stop by and learn what
new technologies are on the horizon. And, you don’t have to leave
the room to attend the opening reception - it’s in the same room.

Thank You To Our Exhibitors (as of Nov. 1)

- Altro Transflor
- Arkansas Industrial Computing, Inc.
- IMPulse NC LLC
- Irwin Transportation Products
- Mass Electric Construction Co.
- Northwest Signal
- Penta Corporation
- RSM Services Corporation
Sunday, continued

- Saft America, Inc.
- Siemens Industry Inc., Rail Systems Division
- S.K.I. Company TDG Transit Design Group Inc.
- Teledyne VariSystems, Inc.
- Tymetal Corp.
- UTC/Rail & Airsources, Inc.
- Western Sierras
- Wilson, Ihrig & Associates, Inc.

Monday, November 12

7 a.m. – 5 p.m.  Imperial Ballroom, Reception C, First Floor
- Registration Desk
- Host Information Desk
- TRB Information Desk
- TCRP Information Desk

Tuscany, Third Floor
- Moderators/Speakers Room

7 – 7:30 a.m.  Imperial Ballroom, Reception A-C, First Floor
Continental Breakfast
Breakfast sponsored by UTC Ras, Inc.

7:30 – 8:30 a.m.  Imperial Ballroom B, First Floor
OPENING GENERAL SESSION
This is where it all starts for the joint conference. We have included many perspectives on the light rail and streetcar industry around the country. Hear about the innovative projects in the Salt Lake Valley, the future of our industry as seen by leaders at APTA and TRB, and the status of light rail projects in North America.

Presiding
Richard Krisak, chair, APTA Light Rail Technical Forum; chair, 12th National Light Rail Conference Planning Committee; and assistant general manager-rail operations & development, Metropolitan Atlanta Rapid Transit Authority, Atlanta, GA

Welcomes
The Honorable Ralph Becker, mayor, Salt Lake City, UT
Monday, continued

Representative Gregory H. Hughes, chair, Board of Trustees, Utah Transit Authority, Salt Lake City, UT

Robert E. Skinner Jr., executive director, Transportation Research Board (TRB), Washington, DC

Kathryn D. Waters, vice president – member services, American Public Transportation Association (APTA), Washington, DC

Status of North American LRT & Streetcar Systems
John Schumann, senior transportation consultant, LTK Engineering Services, Portland, OR

8:45 – 10:15 a.m.
Imperial Ballroom A, First Floor

What Happens When a Transit System Does, or Does Not, Build Light Rail?

This session considers the effects of a transit agency’s decision to invest in rail transit (light rail, heavy rail, or streetcar) on the transit agency’s operations and performance, and the travel behavior of agency patrons.

Moderator
Jeffrey Brown, associate professor and Master’s Program director, Department of Urban & Regional Planning, Florida State University, Tallahassee, FL

Streetcar Implementation Policy Analysis
Jonathan D. Weidman Jr., field/office engineer, AECOM MATC/AECOM, Atlanta, GA

Paul Grether, manager, rail services, Southwest Ohio Regional Transit Authority (SORTA)/Metro, Cincinnati, OH

Joel D. Anders, Georgia Transportation Institute of Technology, Georgia Tech, Atlanta, GA

Comparative Examination of New Start Light Rail Transit, Light Railway and Bus Rapid Transit Services Opened from 2000
Lyndon Henry, technical consultant, Light Rail Now Project, Austin, TX

Eastside Extension LRT: Mobility, Connectivity & Integrated Project Design in Los Angeles, CA
Monica Villalobos, senior project manager, AECOM, Los Angeles, CA

Two State Capitals Compared: One With LRT, One Without. How Has Transit Fared?
John Schumann, senior transportation consultant, LTK Engineering Services, Portland, OR
Monday, continued

8:45 – 10:15 a.m.
Imperial Ballroom C&D, First Floor

Proof-of-Payment (PoP) Fare Collection:
A North American Perspective

Paying your fare: You're "on your honor!"
This session will review the state-of-practice in North America among transit operators employing PoP fare collection. With more than 30 years of experience, PoP is currently being used by 30 North American transit operators with the predominant use being for LRT operations.

This session will compare practices of these 30 operators, including a focus on PoP experiences with one of the earliest practitioners, Calgary C-Train, and one of the most recent, Seattle Sound Transit LRT. Finally, there will be an update on the evolving PoP practices associated with the use of smart card electronic fare payment.

Moderator
Toni Bates, assistant vice president/senior planning manager, Parsons Brinckerhoff, San Diego, CA

Off-Board Fare Payment Using Proof-of-Payment Verification
Thomas F. Larwin, program manager, Lee Engineering, San Diego, CA

Tackling Fare Evasion on Calgary Transit's C-Train System
Brian Whitelaw, coordinator, public safety & enforcement, Calgary Transit, Calgary, AB

Seattle Sound Transit Experiences with Proof-of-Payment Fare Collection
Kenneth Cummins, chief security officer, Sound Transit, Seattle, WA

Smart Cards & Proof-of-Payment: A Marriage of Necessity
Edward B. Pollan, senior engineer, LTK Engineering Services, Seattle, WA

10:30 a.m. – 12 p.m.
Imperial Ballroom A, First Floor

Light Rail & Streetcars in Urban & University Centers

Consideration of LRT and streetcar opportunities in downtown and university areas, presented by a panel offering a range of experiences with implementing LRT and streetcars.

Moderator
Stephanie Eiler, vice president & principal project manager, CH2M HILL, Mendota Heights, MN
**Monday, continued**

**Introducing Streetcars into Historic Florence, Italy**
Thierry Blevinal, senior project manager, Ratp Dev America, Paris, France

**Development of Sacramento’s Streetcar System Plan Using Transportation, Land Use & Economic Development Performance Measures**

**Light Rail through a University Campus: the Purple Line & the University of Maryland**
Monica J. Meade, supervising planner, Parsons Brinckerhoff, Baltimore, MD

**Applying a European “Urban Style LRT” Design Approach in North America – Recent Experience in Canada**
Alan Jones, director, Steer Davies Gleave North America Inc., Vancouver, BC

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10:30 a.m. – 12 p.m.
Imperial Ballroom C&D, First Floor

**LRVs and Streetcars: The Evolution Continues**

Starting with a synopsis of North American LRV and streetcar procurements, this session primarily reflects the high level of interest and activity in streetcar programs. It provides guidance and suggestions on purchasing streetcars, and focuses on the evolving state-of-the-art and application of off-wire operating capability, including the first application of this approach in the U.S.

**Moderator**
Thomas B. Furmaniak, vice chair, APTA Light Rail Transit Technical Forum, and vice president, business development, LTK Engineering Services, Ambler, PA

**North American LRV/Streetcar Procurements…Since We Last Met**
Thomas B. Furmaniak

**Making Streetcar Procurement More Economical**
Thomas Peacock, principal consultant, Interfleet Technology Inc., Philadelphia, PA

**Developing Guidelines for Modern Streetcar Vehicles**
John Smatlak, senior consultant, Interfleet Technology Inc., Los Angeles, CA

**Practical Off-Wire Streetcar Operation**
John D. Swanson, senior professional associate, Parsons Brinckerhoff, San Diego, CA

**The New Seattle Streetcar with Onboard Energy Storage**
Jason M. Krause, vehicle consultant, LTK Engineering Services, Portland, OR
Monday, continued

12:15 – 1:45 p.m.  
**Imperial Ballroom B, First Floor**

**GENERAL LUNCHEON**  
**Strategies & Tactics to Achieve Rapid Network Implementation**

Vision, partnership, and execution…the background behind the rapid growth of a rail system in a mid-sized Western city. Hear a discussion of the planning challenges, construction creativity, and operations wizardry that brought a modern day rail system to the west slope of the Rocky Mountains.

**Moderator**  
Paul O’Brien, rail services general manager, Utah Transit Authority, Salt Lake City, UT

**Panelists**  
Michael A. Allegra, general manager, Utah Transit Authority, Salt Lake City, UT  
Lane Beattie, president and CEO, Salt Lake Chamber of Commerce, Salt Lake City, UT  
Andrew K. Jackson, executive director, Mountainland Association of Governments, Salt Lake City, UT

General Luncheon sponsored by Stacy and Witbeck, Inc.

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2 – 3:30 p.m.  
**Imperial Ballroom A, First Floor**

**Tailoring Light Rail Operations to Fit the Modern Multimodal Metropolis**

*Teaching an "old dog" new tricks!*

Flexibility is a key attribute of light rail transit, allowing it to adapt operating practices in response to changes over time in the metropolitan areas it serves. Adaptations can be internal (such as service patterns, schedules) or external (such as multimodal connections). The speakers will describe examples of where light rail transit has eschewed traditional methods of operation to better suit changing travel patterns, thereby creating a whole that is greater than the sum of its parts.

**Moderator**  
T.R. Hickey, vice chair, APTA Streetcar Subcommittee, and rail and transit planning manager - East Coast, CH2M HILL, Philadelphia, PA
Monday, continued

Methods for Expediting Light Rail Transit Service & Warrants for Implementation
Victoria L. Harris, transportation planner, Parsons Brinckerhoff, Philadelphia, PA

T.R. Hickey, vice chair, APTA Streetcar Subcommittee, and rail and transit planning manager - East Coast, CH2M HILL, Philadelphia, PA

Light Rail to Airports – Lessons Learned, Key Issues & Success Criteria
Andrew Sharp, director general, International Air Rail Organisation, London, United Kingdom

Phoenix: System-wide Network Integration
Wulf Grote, director, project development, Valley Metro Rail, Inc., Phoenix, AZ

Investing in Capital Improvements – A Prescription for Sustaining Light Rail Service
James H. Graebner, chair, APTA Streetcar Subcommittee, and president, Lomarado Group, Denver, CO

2 – 3:30 p.m.
Imperial Ballroom C&D, Fist Floor

Community Decision Making

Rail transit, and in particular light rail and streetcars, is best suited for use in high-density areas. These areas may be new, or old, but regardless they desire all the benefits of rail transit and none of the perceived impacts of noise, vibration, and overhead wires. Follow along with our presenters as they describe various methods of noise, vibration, and visual impact reductions along corridors, and the public outreach process as it relates to building a new rail line.

Moderator
Damon Blythe, 1st vice chair, APTA Multimodal Operations Planning Subcommittee, North County Transit District, Oceanside, CA

Noise Vibration Issues of Modern Streetcars
Shankar Rajaram, consultant, ATS Consulting, Pasadena, CA

The Role of Technology in the Aesthetic Design of New LRT/Streetcar Systems
Scott Sherin, vice president, marketing and strategic development, Alstom Transportation, Inc., Rochester, NY
### Monday, continued

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
<th>Speakers</th>
</tr>
</thead>
</table>
| 3:45 – 5:15 p.m.  | Imperial Ballroom A, First Floor | **Honolulu Rail Transit Project – Light Metro vs. Light Rail**  
Harvey L. Berliner, chief project officer, HDR/InfraConsult LLC, Honolulu, HI  
**Baltimore Red Line Project Is a Model for Civic Engagement**  
Danyell Diggs, Red Line coordinator, City of Baltimore, Baltimore, MD |
| 3:45 – 5:15 p.m.  | Imperial Ballroom C&D, First Floor | **LRT, Streetcars & Transit-Oriented Developments**  
This session explores the relationship between light rail and streetcar investment and transit-oriented development (TOD) through case studies of cities in the United States, Canada, and Sweden.  
**Moderator**  
Francis E. Loetterle, senior project planner, Quandel Consultants, LLC, Minneapolis, MN  
**Light Railways and Busways as Key Driver for Sustainable Urban Development: The Swedish Experiences with Transit-Oriented Development (TOD)**  
Todor Stojanovski, Ph.D. candidate, KTH Royal Institute of Technology, Traffic & Logistics, Stockholm, Sweden  
**Light Rail as the Catalyst for Ottawa’s Transit-Oriented Development: Planning for Sustainable Growth**  
Dennis Gratton, manager, rail planning, Rail Implementation Office, City of Ottawa, ON  
**Portland Streetcar: A Catalyst for Economic Development**  
Rick Gustafson, executive director, Portland Streetcar Inc., Portland, OR  
**Understanding the Level of Integration of Light Rail Transit into Communities in the Denver Region**  
Wesley Marshall, assistant professor of civil engineering, Department of Civil Engineering, University of Colorado, Denver, CO |
| 3:45 – 5:15 p.m.  | Imperial Ballroom C&D, First Floor | **Traffic Engineering Innovations for LRT & Streetcars**  
Interfacing light rail and streetcar alignments with traffic operations often poses challenges to design, construction, and operations. Hear some examples of traffic engineering innovations that have been used to address these challenges. Topics include: improving safety and efficiency at intersections by combing LRT |
and a roundabout; using a combination of tools to address multiple modes in streetcar project; saving project time and costs by incorporating subsurface utility engineering for light rail projects; and using technology to address transit signal priority issues.

**Moderator**  
Ahmad Al-Akhras, transportation planning consultant, Department of Transport, Abu Dhabi, UAE

**Leveraging SUE Data for Utility Safety on Light Rail Transit Projects**  
Phil Meis, principal, vice president, Utility Mapping Services, Inc., Montana City, MT

**Traffic Engineering Innovations for the Sugarhouse Streetcar Project**  
Lynn Jacobs, senior transportation engineer, Fehr & Peers Associates, Inc., Salt Lake City, UT

**Modern Roundabout Makes Preferred Alignment Possible for TRAX Light Rail in Salt Lake City**  
Bill Baranowski, city traffic engineer, W. Jordan City/RoundaboutsUSA, West Jordan, UT

**Traffic Management at Hampton Roads**  
James Price, chief operations officer, Hampton Roads Transit, Hampton, VA

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7 – 9 p.m.
Imperial Ballroom B,  
First Floor

**Evening “Open Forum”**

Topical discussions concerning light rail and streetcars

**Panel Discussion:**

MAP-21: What Does it Mean for Your Light Rail or Streetcar Project?

**Moderator**  
T.R. Hickey, vice chair, APTA Streetcar Subcommittee, and rail and transit planning manager, East Coast, CH2M HILL, Philadelphia, PA

**Panelists**

Donald J. Emerson, principal consultant, Parsons Brinckerhoff, San Francisco, CA

David Vozzolo, vice chair, APTA Policy and Planning Committee, and vice president, HDR Engineering, Inc., Vienna, VA

Wulf Grote, director, project development, Valley Metro Rail, Inc., Phoenix, AZ
Monday, continued

The panel discussion will be followed by a series of extemporaneous presentations up to 15 minutes in length regarding light rail transit, streetcars, or any other topic that participants may feel is relevant and informative to their peers. (Please contact the moderator at (610) 306-3066 to reserve a spot.)

Berliner - Cobb - Edmonton - Gross - Hendrigan - Johnson - Wilczek

Tuesday, November 13

7 a.m. – 1 p.m.
Imperial Ballroom,
Reception C, First Floor
- Registration
- Host Information Desk
- TRB Information Desk
- TCRP Information Desk

Tuscany, Third Floor
- Moderators/Speakers Room

7 – 7:30 a.m.
Imperial Ballroom,
Reception A-C, First Floor
Continental Breakfast sponsored by Gannett Fleming, Inc.

7:30 – 9:15 a.m.
Imperial Ballroom,
Reception A, First Floor
Growing Streetcar Lines from Urban Circulators to Metro LRT Systems

In the early 20th Century, urban streetcar lines partnered with longer-distance interurban railways to form integrated metropolitan rail networks. Now in the early 21st century, history is repeating itself as the dividing line between streetcars and light rail transit is becoming blurred. Four presenters will discuss the "how" and "why" of it from the perspective of different cities.

Moderator
James H. Graebner, chair, APTA Streetcar Subcommittee, and president, Lomarado Group, Denver, CO

Streetcars, Light Rail and the Transit City
Councillor Karen Stintz, chair, Toronto Transit Commission, Toronto, ON
Tuesday, continued

**Trackway Guidelines for Streetcar and Light Rail Circulator System Infrastructure**
Lawrence G. Lovejoy, senior supervising engineer, Parsons Brinckerhoff, Pittsburgh, PA

**Lake Oswego to Portland Transit Project – Lessons Learned**
John Cullerton, senior project manager, URS Corporation, Portland, OR

**Economies of Scale in Operating Costs for LRT & Streetcars**
Duncan Allen, associate, IBI Group, Boston, MA

7:30 – 9:15 a.m.
Imperial Ballroom C&D, First Floor

**Right-of-Way Treatments to Enhance LRT & Streetcar Operations & Aesthetics**

The implementation of light rail/tram systems into a congested urban environment brings many challenges. In addition to this complexity, new systems are often required to interface with existing transit infrastructure in major activity centers. Learn how these issues can be addressed through the inherent flexibility of the light rail mode, producing an effective transit project while at the same time enhancing the quality of life.

**Moderator**
Richard Krisak, chair, APTA Light Rail Technical Forum; chair, 12th National Light Rail Conference Planning Committee; and assistant general manager-rail operations & development, Metropolitan Atlanta Rapid Transit Authority, Atlanta, GA

**Enhancing Neighborhoods through Streetcar Development in Paris, France**
Mathieu Dunant, chief executive officer, Ratp Dev America, New York, NY

**Cross Section of Best Practices in LRT & Streetcar Right-of-Way Aesthetics**
Bruce Horowitz, principal, ESH Consult, Alexandria, VA

Mark Walbrun, vice president, CH2M HILL, Chicago, IL

**Purple Line – Connecting the Nation’s Capital Transportation System**
Gregory P. Benz, senior vice president, Parsons Brinckerhoff, Baltimore, MD

**Overview of European LRT Right-of-Way Treatments of Today and Yesteryear**
Glen D. Bottoms, executive director, The American Conservative, Center for Public Transportation, Arlington, VA
State-of-the-Art Light Rail: Lessons from France

French noveau tram (light rail) is now considered world state of the art with design and planning approaches that contrast strongly with those in North America. The mobility and urban form of some 20 French suburbs and cities have been transformed in a remarkably short period by small noveau tramway systems that enhance the urban and suburban environments through which they run, carry up to 90,000 passengers per day on individual lines, carry up to 50 percent of total transit patronage in their regions, and have reversed declining bus patronage. This panel of French experts is the second step in a wider research program trying to understand why and how this has been achieved.

Moderator
Gregory L. Thompson, chair, TRB Light Rail Transit Committee; vice chair, 12th National Light Rail Conference Planning Committee; and professor emeritus, transportation planning, Florida State University, Tallahassee, FL

Spread of the Noveau Tramway Concept: An Overview
Tom E. Parkinson, president, Transport Consulting Limited, Vancouver, BC

Tramway Renaissance in France: Key Factors of Success
Christian Buisson, independent transit consultant, Orleans, France

Urban Insertion of Tramways: Efficiency & Revitalizations of City Centers
Dominique Bertrand, senior adviser in street design for urban transport, Certu, Lyon, France

The French Tramways: The Results
Andrew Wood, group tramway expert, Keolis SA, Lyon, France
Tuesday, continued

TECHNICAL TOURS
UTA Operations & Urban Development

Be sure to take advantage of the various technical tours provided by our host, Utah Transit Authority. Please sign up at the host information desk for the tours of your choice. All tours depart from the Lobby of the Grand America Hotel at the times indicated.

11:15 a.m. – 1:15 p.m. Tour 1: Jordan River Service and Control Room
(Tour repeated at 2:30 p.m.; see Tour 5)

Meet in the hotel lobby at 11:15 a.m.; depart from the hotel at 11:20 a.m. to walk to the Courthouse TRAX station to ride a special Green Line train to the Jordan River Service Center. Tour the TRAX service center and TRAX control room. Ride the train back to the hotel. Estimated to arrive back at the hotel by 1:15 p.m.

11:15 a.m. – 1:15 p.m. Tour 2: Airport Line
(Tour repeated at 2:30 p.m.; see Tour 6)

Meet in the hotel lobby at 11:15 a.m.; depart from the hotel at 11:20 a.m. to board buses waiting outside. Tour will cover the entire Airport TRAX Line from the Arena TRAX station, along North Temple and out to the airport. The group will get to see the “Grand Boulevard” created by a partnership between UTA and Salt Lake City. The tour will be led by the Airport TRAX Line project manager and a representative from Salt Lake City. If necessary, tour participants who wish to exit at the airport to catch an early flight may do so. Estimated to arrive at the airport at 12:45 p.m. Estimated to arrive back at the hotel by 1:15 p.m.

11:15 a.m. – 1:15 p.m. Tour 3: University Line
(Tour repeated at 2:30 p.m.; see Tour 7)

Meet in the hotel lobby at 11:15 a.m., depart from the hotel at 11:20 a.m. to walk to the Courthouse TRAX station to ride a regular service Red Line train (11:28 a.m.) to the Stadium TRAX station on the University of Utah Campus. Hear a 30-minute
Tuesday, continued

presentation at the Rice Eccles Stadium by UTA, Salt Lake City, and the University about the partnerships necessary to get the University TRAX Line built. After the presentation (time permitting), the group will ride a regular service train up to the Medical Center TRAX station and return to the hotel by regular service train. Estimated to arrive back at the hotel by 1:15 p.m.

Tour 4: Sugar House
(Tour repeated at 2:30 p.m.; see Tour 8)

Meet in the hotel lobby at 11:15 a.m.; depart from the hotel at 11:20 a.m. to board buses waiting outside. Tour will cover the entire Sugar House Streetcar Line from Central Pointe station to Sugar House. The group will get to see early construction along the line and re-development areas. The tour will be led by the Sugar House Streetcar project manager and representatives from Salt Lake City and South Salt Lake. Estimated to arrive back at the hotel by 1:15 p.m.

Tour 5: Jordan River Service and Control Room
(Tour also offered at 11:15 a.m.; see Tour 1)

Meet in the hotel lobby at 2:30 p.m.; depart from the hotel at 2:35 p.m. to walk to the Courthouse TRAX station to ride a special Green Line train to the Jordan River Service Center. Tour the TRAX service center and TRAX control room. Ride the train back to the hotel. Estimated to arrive back at the hotel by 4:30 p.m.

Tour 6: Airport Line
(Tour also offered at 11:15 a.m.; see Tour 2)

Meet in the hotel lobby at 2:30 p.m.; depart from the hotel at 2:35 p.m. to board buses waiting outside. Tour will cover the entire Airport TRAX Line from the Arena TRAX station, along North Temple and out to the Airport. The group will get to see the “Grand Boulevard” created by a partnership between UTA and Salt Lake City. The tour will be led by the Airport TRAX Line project manager and a representative from Salt Lake City. If necessary, tour participants who wish to exit at the airport to catch an early flight may do so. Estimated to arrive at the airport at 4 p.m. Estimated to arrive back at the hotel by 4:30 p.m.
Tuesday, continued

2:30 – 4:30 p.m.  **Tour 7: University Line**  
(Tour also offered at 11:15 a.m.; see Tour 3)

Meet in the hotel lobby at 2:30 p.m.; depart from the hotel at 2:35 p.m. to walk to the Courthouse TRAX station to ride a regular service Red Line train (2:43 p.m.) to the Stadium TRAX station on the University of Utah Campus. Hear a 30-minute presentation at the Rice Eccles Stadium by UTA, Salt Lake City, and the University about the partnerships necessary to get the University TRAX Line built. After the presentation (time permitting), the group will ride a regular service train up to the Medical Center TRAX station and return to the hotel by regular service train. Estimated to arrive back at the hotel by 4:30 p.m.

2:30 – 4:30 p.m.  **Tour 8: Sugar House**  
(Tour also offered at 11:15 a.m.; see Tour 4 for details.)

Meet in the hotel lobby at 2:30 p.m.; depart from the hotel at 2:35 p.m., to board buses waiting outside. Tour will cover the entire Sugar House Streetcar line from Central Pointe station to Sugar House. The group will get to see early construction along the line and redevelopment areas. The tour will be led by the Sugar House Streetcar project manager and representatives from Salt Lake City and South Salt Lake. Estimated to arrive back at the hotel by 4:30 p.m.
Utah Transit Authority

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12th National Light Rail Conference
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Chair, TRB Light Rail Transit Committee
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Jeffrey LaMora, Utah Transit Authority
Francis E. Loetterle, Quandel Consultants, LLC
Paul O’Brien, Utah Transit Authority
John Schumann, LTK Engineering Services

Kevin Dow, American Public Transportation Association
Charles Joseph, American Public Transportation Association
Jennifer Rosales, Transportation Research Board
# Future Meetings

## APTA
Visit [www.apta.com](http://www.apta.com)

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Location</th>
</tr>
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<tbody>
<tr>
<td>TRANSIT CEOs SEMINAR</td>
<td>February 9 – 12, 2013 Palm Springs, CA</td>
</tr>
<tr>
<td>LEGISLATIVE CONFERENCE</td>
<td>March 10 – 12, 2013 Washington, DC</td>
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<tr>
<td>BUS &amp; PARATRANSLIT CONFERENCE &amp; INTERNATIONAL BUS ROADEO</td>
<td>May 5 – 8, 2013 Indianapolis, IN Roadeo: May 3 – 7, 2013</td>
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<tr>
<td>INTERNATIONAL RAIL RODEO</td>
<td>May 30 – June 2, 2013 Philadelphia, PA</td>
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<td>RAIL CONFERENCE</td>
<td>June 2 – 5, 2013 Philadelphia, PA</td>
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<tr>
<td>TRANSIT BOARD MEMBERS SEMINAR &amp; BOARD SUPPORT EMPLOYEE DEVELOPMENT WORKSHOP</td>
<td>July 20 – 23, 2013 Austin, TX</td>
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<tr>
<td>ANNUAL MEETING</td>
<td>September 29 – October 2, 2013 Chicago, IL</td>
</tr>
<tr>
<td>ANNUAL MEETING &amp; EXPO 2014</td>
<td>October 12 – 15, 2014 Houston, TX</td>
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## TRB
Visit [www.trb.org](http://www.trb.org)

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<thead>
<tr>
<th>Event</th>
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<tbody>
<tr>
<td>FIRST ANNUAL INTERNATIONAL CONFERENCE ON CONNECTED VEHICLES AND EXPO</td>
<td>December 12 – 16, 2012 Beijing, China</td>
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<tr>
<td>TRANSPORTATION CAMP DC 2013</td>
<td>January 12, 2013 Washington, DC</td>
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<tr>
<td>92ND ANNUAL MEETING</td>
<td>January 13 – 17, 2013 Washington, DC</td>
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<tr>
<td>2013 JOINT RAIL CONFERENCE: NEXT GENERATION RAIL – MEETING CHALLENGES OF THE FUTURE</td>
<td>April 15 – 18, 2013 Knoxville, TN</td>
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<tr>
<td>10TH NATIONAL CONFERENCE ON TRANSPORTATION MANAGEMENT</td>
<td>April 28 – 30, 2014 Miami, FL</td>
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Notes