

# NATIONAL FUEL CELL BUS WORKSHOP

ERNEST N. MORIAL CONVENTION CENTER, ROOM 394

## MONDAY, OCTOBER 3

**8:30-10:00 AM**

### Welcome & Update on Fuel Cell Bus Demonstrations

National Fuel Cell Bus Program (NFCBP) consortia and the National Renewable Energy Laboratory (NREL) present recent activities, remarkable findings, new technical data & future plans in current & near groundbreaking fuel cell bus demonstration projects.

**Welcome:**

Dan Raudebaugh, CTE  
Walter Kulyk, FTA

**Presenters:**

Dan Raudebaugh, CTE  
Larry Wnuk, CALSTART  
Sheila Lynch, NAVC  
Leslie Eudy, NREL

*2011 Status of Fuel Cell Buses in U.S. Transit*

**10:15-11:45 AM**

### From One Agency to Another: Transit Operators' Experience

Transit agencies summarize the day-to-day experience of fuel cell bus operation. Discussion focuses on the practicalities of introducing new technology in their fleets.

**Moderator:**

Marty Mellera, SFMTA

**Panelists:**

Mike Weston, London Transport  
Doug Byrne, AC Transit  
Tommy Edwards & Rudy LeFlore, SunLine Transit  
Steve Miller, Golden Gate Transit  
Steve Warren, CT Transit  
Aaron Lamb, BC Transit

## TUESDAY, OCTOBER 4

**8:30-10:00 AM**

### Framing Fuel Cell Buses Within the Alternative Fuel Transit Market

Panelists contextualize the market of fuel cell bus technology including a discussion by DOE of recently reviewed fuel cell bus technical and cost target recommendations from the industry. FTA will also provide an overview of current National Fuel Cell Bus Program activities.

**Moderator:**

Leslie Eudy, NREL

**Panelists:**

Lisa Jerram, Pike Research  
*International Comparative Market Analysis of Fuel Cell Transit Buses*  
Dimitrios Papageorgopoulos, DOE  
*Roundtable discussion of fuel cell bus technical and cost target RFI submissions*  
Walter Kulyk, FTA  
*National Fuel Cell Bus Research Program Update*

**10:15-11:45 AM**

### Perspectives from a Fuel Cell Bus Demonstration Partnership Team

Transit, manufacturing and research partners from an ongoing fuel cell bus demonstration project serve as a case study for involvement in fuel cell bus activity. Discussion showcases the collaborative approaches this Team employed to resolve specific demonstration situations.

**Moderator:**

Dan Raudebaugh, CTE

**Panelists:**

Jason Hanlin, CTE  
Dale Hill, Proterra  
Mark Kammerer, Hydrogenics  
Louis Fernandez, Signature Transportation  
Mike Lewis, University of Texas-Center for Electromechanics  
Carl Woodby, Capital Metro

## WEDNESDAY, OCTOBER 5

**8:30-10:30 AM**

### Making the Business Case: Industry's Roadmap for Adoption (Vehicles)

Experienced bus OEMs present the business perspective on fuel cell bus technology's readiness and proven success. Open Q&A discussion will focus on: What will it take for fuel cell buses to be price competitive with trolley buses, hybrids, and other alternative fueled vehicles? What is the expected cost of maintenance over time and component durability? What kind of warranties are projected?

**Moderator:**

Jaimie Levin, AC Transit

**Panelists:**

*OEM's Business Case:*  
Mark Brager, New Flyer  
Dale Hill, Proterra  
Jos Jansen, APTS BV  
Paul Jenné, Van Hool  
*First-Tier Component Suppliers:*  
Dana Kaplinski, UTC Power  
Jeff Grant, Ballard  
Mark Kammerer, Hydrogenics  
Bob Devine, BAE Systems  
Thomas Orberger, Siemens

**10:45-11:45 AM**

### Making the Business Case: Industry's Roadmap for Adoption (Fueling)

Experienced hydrogen infrastructure providers present on large-fleet hydrogen fueling stations' readiness and proven success. UD Center for Fuel Cell Research will speak to their infrastructure successes. Presenters will focus on the following questions: How do hydrogen fueling stations compare to standard diesel and CNG fleet fueling stations? How quickly can they fuel buses? What will it take to fuel 200 buses in a single operating division? What are the capital and O&M costs of these stations, and the cost of hydrogen? When will it be competitive with diesel and CNG fuels?

**Moderator:**

Nico Bouwkamp, CA Fuel Cell Partnership

**Panelists:**

Mike Beckman, Linde  
Bob Oesterreich, Air Liquide  
Nick Mittica, Air Products  
Dr. Ajay K. Prasad, UD Center for Fuel Cell Research

