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## AMERICAN PASSENGER ROLLING STOCK

## Lifecycle Asset Management Summit **2017**

MARCH 15-16, 2017 - WASHINGTON, D.C.

**Predictively Manage Your Rolling Stock Assets** 

To Meet Federal Requirements For **Future Funding And Extend Vehicle Lifecycles** 

Plus Real World Case Studies On Transitioning To Cost-Effective Condition Based Maintenance

Featuring Practical Case Studies From North America's Top Transit Agencies

STRATEGIC & OPERATIONAL TAKEAWAYS FROM

### FTA Funding & Asset Management

Discuss the most important data collection, maintenance procedures and record keeping practices to secure FTA funding

### **High Profile Case Studies**

Hear lessons learned in weather preparedness and safety respectively

### **Data Analytics**

Determine the most valuable data to analyze to maximize payback and minimize downtime

### **Vehicle Lifecycle Extension**

Learn how a leading transit agency is maintaining components to extend vehicle lifecycles beyond design life

### **Affordable CBM Programs**

Analyze the systems you've already got to make your operation more predictive

### Maintenance Planning

Predict what your maintenance requirements are to appropriately plan

materials and manpower

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Director, Office of Strategic Planning & Analysis **Federal Transit Administration** 



Francesco Palmeri Director, Reliability Centered Maintenance Planning **Washington Met. Area Transit Authority** 



Douglas Miller Director of Rail Car Maintenance **Metropolitan Atlanta Rapid Transit Authority** 



Allen C. Smith III General Manager Rail Operations **Charlotte Area Transit System** 



Biju John Supervisor of Rolling Stock Maintenance **New York City Transit** 



Richard Tripoli **Director of Equipment Maintenance Southern California Regional Rail** 



Stan Goff Maintenance Manager Southeastern Pennsylvania **Transportation Authority** 



Clive Cashin Senior Rolling Stock Manager **Transport for London** 



## Lifecycle Asset Management Summit 2017

Rail transit agencies across North America are looking to make their trains more available and reliable than ever before by harnessing new predictive maintenance and asset management programs.

But with the advent of new asset management guidelines and final rules from the Federal Transit Authority, agencies must now adapt to answer several key questions:

- How can we change our asset management program to secure FTA funding?
- How can we incorporate a predictive maintenance program in a cost-effective manner?
- How can we effectively maintain train components to extend vehicle lifecycles?
- How do we interpret the huge quantities of data coming off the train to advise our maintenance?

To address these and many more issues the **Rolling Stock Lifecycle Asset Management Summit 2017** will deliver cutting-edge case studies on how to collect data and arrange maintenance to put your transit agency in pole position for future funding.

Following on from the success of last year's edition, the Congress will reconvene at the new central location of the Kellogg Conference Center, Washington D.C. this March 15<sup>th</sup> and 16<sup>th</sup> – make sure you join us to keep your agency ahead of ther curve.

Very good conference. A unique opportunity to meet with head engineers and maintenance managers from a variety of companies and projects and to really see the main trends on rolling stock maintenance.

Bonatrans Group

### Venue



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### WHY ATTEND?

- Secure Your Agency's Future –
   Hear the latest directives on data
   collection, maintenance procedures
   and record keeping to secure FTA
   funding
- Use What You've Got Utilize components that are already on your fleet to employ an affordable CBM program
- Prepare For The Weather Make sure your agency can counter extreme weather conditions while minimizing train component corrosion
- Consider New Technology Hear about up-to-the-minute industry technology that can give your asset management program the edge
- Learn Transferrable Lessons Find out how another industry is dealing with its asset management challenges to bring savings to your own organization
- Choose Overhaul Method Identify the correct performance factors to decide on in-house versus outsourced overhaul

As a systems supplier to the rail industry the amount of experience shared here by operators (our customers) is really impressive.

KNORR-BREMSE

This conference addressed all of the key issues is an engaging and fresh way - it was good to meet with my peers to discuss industry developments, both present and for the future also

**FCCA** 

## Asset Management Best Practices For Securing FTA Funding, Industry Case Studies And New Technologies

#### 7:50 Registration & Networking

8:50 LBCG Welcome & Chairman's Opening Remarks

**Day 1 Chair - Keith Abate**, Senior Director of Business Development, **Perpetuum** 

### **INDUSTRY CHALLENGES**

9.00 Consider Challenges Facing The Industry In Transitioning To CBM To Drive Towards A Comprehensive Asset Management Program

**Keith Abate**, Senior Director of Business Development, **Perpetuum** 

### FTA FUNDING

HEAR THE BEST ASSET MANAGEMENT METHODS TO SECURE FTA FUNDING

### KEYNOTE: FTA FUNDING - DATA COLLECTION, MAINTENANCE PROCEDURES AND RECORD KEEPING

### 9.30 Hear An Overview Of FTA's Asset Management Requirements To Allow Investment In Fleet Maintenance And Upgrades

- Is your agency ready to complete an asset management plan?
- Consider how to integrate maintenance with capital planning
- Identify upcoming FTA deadlines and standards for compliance

John Giorgis, Director Office of Strategic Planning & Analysis, Federal Transit Administration

10.00 Question & Answer Session

## CASE STUDY: ASSET MANAGEMENT BEST PRACTICES

## 10.10 Implement An Asset Management System To Minimize Maintenance Costs

- Discuss how to maintain an asset management database to allow efficient communication of maintenance tasks
- Understand the interpretation of funding regulations to advise on maintenance spending
- Interpret asset management data to minimize unnecessary maintenance tasks

**Allen C. Smith**, General Manager Rail Operations, **Charlotte Area Transit System** 

10.40 Question & Answer Session

**10.50** Morning Refreshments In Exhibition Showcase Area

### TRANSIT AUTHORITY DATA FRAMEWORK FOR EFFICIENT ASSET, OPERATIONS AND MAINTENANCE MANAGEMENT

### 11.20 Homogenize And Align Data Sources To Approach Asset, Operations And Maintenance Management From A Compliance Perspective

- "Health Status" concept: Understand your data in terms of "the next biggest problem" to most effectively minimize impact on your activity
- Dynamic Maintenance Planning: Employ diagnostics and advanced data analytics to avoid over/under maintenance and to extend asset life
- Hear about knowledge repositories that enable efficient communications from the workshop to the C-Room

Gorka Parada, CEO, NEM Solutions USA Inc.

11.45 Question & Answer Session

### PANEL: ASSET MANAGEMENT MULTIPLE PERSPECTIVES

### 11.55 Assess Various Asset Management Strategies To Select The Method That Is Best For Your Transit Agency

- Compare private and federal funding streams to secure funding
- Consider reporting methods to integrate industry best practices
- Identify state of good repair standards to ensure regulatory compliance
- Assess how to use what you've got to adhere to new directives

**Moderated by Keith Abate**, Senior Director of Business Development, **Perpetuum** 

Panelist: Douglas Miller, Director of Rail Car Maintenance, Metropolitan Atlanta Rapid Transit Authority

**Panelist: John Giorgis**, Director Office of Strategic Planning & Analysis, **Federal Transit Administration** 

12.35 Lunch In The Exhibition Showcase Area

#### LIFECYCLE EXTENSION

## 12.35 Hear What Steps A Transit Agency Is Taking To Extend Vehicle Lifecycles

- Track rolling stock lifecycles to extend vehicle systems beyond design life
- Boost asset predictability and reliability to adhere to Transit Asset Management requirements
- Track component degradation to correctly estimate part change time points

Clive Cashin, Principal Rolling Stock Engineer, Transport for London (United Kingdom)

1.05 Question & Answer Session

1.15 Lunch In The Exhibition Showcase Area

## MAINTENANCE PLANNING IDENTIFY MAINTENANCE REQUIREMENTS TO INCREASE TRAIN THROUGHPUT

### MAINTENANCE PLANNING

### 2.15 Identify Material And Manpower Requirements For Maintenance To Minimize Downtime

- Predictively identify maintenance issues to allow appropriate planning of materials and manpower
- Incorporate data collection to ensure an efficient flow of information from the technician to maintenance and engineering

Stan Goff, Maintenance Manager, Southeastern Pennsylvania Transportation Authority

2.45 Question & Answer Session

LESSONS LEARNED CASE STUDY - WEATHER
HEAR FROM A HIGH PROFILE TRANSIT AGENCY
ON HOW TO COUNTER ADVERSE WEATHER
CONDITIONS

### WEATHER PREPAREDNESS

### 2.55 Hear How To Prepare For Extreme Weather To Minimize Maintenance Costs And Damage To The Fleet

- Discuss appropriate investment in snow removal equipment to counteract extreme weather conditions
- Mitigate ingestion of snow into the train to prevent

motors from blowing out

- Interpret the baseline performance level of components in low temperatures to assess the functionality of equipment
- Consider the impact of low temperatures and salt on train components to minimize corrosion and wear and tear

#### 3.25 Question & Answer Session

**3.35** Afternoon Refreshments In The Exhibition Showcase Area

CROSS-INDUSTRY STATE OF GOOD REPAIR
CONSIDER HOW STATE OF GOOD REPAIR IS
APPROACHED IN A DIFFERENT INDUSTRY TO
DEVELOP NEW PRACTICES

## APPROACHES TO STATE OF GOOD REPAIR - CROSS INDUSTRY CASE STUDY

### 4.05 Compare State Of Good Repair Standards From The Water Industry To Advise On Future Methods

- What are the data collection best practices that can be adopted from the water industry to demonstrate a state of good repair?
- How does the water industry go about predicting expected failures?
- How do they manage assets with 20-50 year life cycles?
- How do they balance long-term maintenance objectives with day-to-day operations and the shortterm priorities that continually arise?
- Is there any difference in approach between private and municipal?

### 4.35 Question & Answer Session

NEW TECHNOLOGIES

DELVE INTO THE NEWEST TECHNOLOGIES TO
MAXIMIZE PAYBACK FROM INVESTMENT

## NEW TECHNOLOGIES - WHERE TO INVEST / UPGRADE

## 4.45 Weigh The Cost-Benefits Of New Technologies To Improve Serviceability And Quality While Maintaining Reliability

- Compare CNG engines versus electric battery vehicles to advise on the appropriate selection
- Consider the payback of various sensors to maximize component lifecycles
- Hear about LEDs and other lighting technologies to minimize electric expenditure
- This session is reserved for a service provider that demonstrates thought leadership in new technologies
- For more information please contact sponsorship@ american-business-conferences.com

### 4.55 Question & Answer Session

### **REFOCUS**

5.05 Discuss Key Takeaways From Day One To Consolidate Lessons Learned

**Led by Keith Abate**, Senior Director of Business Development, **Perpetuum** 

5.30 Chair's Closing Remarks

5.40 - 6.40 Networking Drinks Reception In Exhibition Showcase Area

#### 9.00 Chair's Opening Remarks

### KEYNOTE: COST-EFFECTIVE CONDITION-BASED MAINTENANCE

### 9.10 Use Low Cost Tools To Incorporate Condition Based Maintenance Into Your Standard Maintenance Activities

- Use traditional rolling stock tools and readings to the advantage of predictability
- Read temperatures, voltage and current to monitor the 'brain' of modern rolling stock
- Employ spreadsheets and basic databases to satisfy Transit asset management requirements

Richard Tripoli, Director of Equipment Maintenance, Southern California Regional Rail Authority

9.40 Question & Answer Session

PREDICTIVE MAINTENANCE
DEEP DIVE INTO THE INDUSTRY'S LEADING
EXAMPLES OF INTEGRATING PREDICTIVE
MAINTENANCE TECHNOLOGIES

## CASE STUDY: BUSINESS CASE FOR PREDICTIVE MAINTENANCE

## 9.50 Turn CBM Data Into Business Value To Drive Adoption Of Predictive Maintenance

- Detect different phases of degradation to identify corresponding maintenance actions
- Build data-driven predictive models of remaining useful life to identify the right timing for maintenance
- Automatize the detection and alarm generation to facilitate the process

**Johannes Emmelheinz**, CEO Mobility Services, **Siemens** 

10.05 Question & Answer Session

## PANEL: TRANSITIONING TO CONDITION-BASED MAINTENANCE

### 10.15 Discuss a Cost-Benefit Analysis Of Time-Based Versus Mileage-Based Maintenance

- Establish the business case for CBM to ensure funding
- Hear best practices and lessons learned to ensure a successful transition to CBM
- Use train monitoring data to enable maintenance optimization

Panelist: Richard Tripoli, Director of Equipment Maintenance, Southern California Regional Rail Authority

**10.55** Morning Refreshments In The Exhibition Showcase Area

### WMATA CASE STUDY

## **11.25** Analyze New Initiatives To Improve Maintenance And Reliability

- Hear a brief introduction into WMATA Rail Assets to understand WMATA's historical approach to maintenance
- Consider the condition monitoring and trending initiatives that are underway to improve maintenance & reliability
- Examine future plans to continue this progress

**Frank Palmeri**, Director Reliability Centered Maintenance Planning, **WMATA** 

11.55 Question & Answer Session

### PREDICTIVE MAINTENANCE FOR EXISTING FLEFTS

### 12.05 Consider The Benefits Of A Performance Based System To Minimize Maintenance Costs

- Analyze sensor data to determine the recommended performance of an older vehicle
- Consider at what age CBM no longer pays back to minimize wasted investment
- Compare lifecycles of trains using a performancebased system versus time or mileage based to maximize payback

**Clive Cashin**, Principal Rolling Stock Engineer, **Transport for London** 

12.35 Question & Answer Session

## AGE EXPLORATION AND REAL TIME CBM - LIRR/MNR & CHICAGO METRA CASE STUDY

### 12.45 Review Case Studies And Tools To Increase Maintenance Intervals While Increasing Fleet Reliability

- See how an Age Exploration partnership with the FRA, OEM and Authority leads to increased maintenance intervals and increased reliability
- Hear how the KB-CT-1 Braking System used by LIRR/ MNR on their M7, M8 and forthcoming M9 fleets was increased from a 3 to an 8 year maintenance interval, currently in exploration to 10.5 years
- Assess how through such a partnership and the Age Exploration process, organic improvements can be realized to decrease overall maintenance costs
- Analyze how this philosophy of mutual partnership can also be utilized at Railroads not under FRA compliance to achieve the same results

**Dirk Seckler**, Head of Sales Rail Services, **Knorr Bremse** (**Germany**)

Richard Stelmach, Manager Rail Services North East Region, Knorr Brake Company

1.05 Question & Answer Session

1.15 Lunch In The Exhibition Showcase Area

PARTS PROCUREMENT & OVERHAUL
DISCUSS ISSUES WITH OVERHAUL,
OBSOLESCENCE AND PARTS SOURCING TO
MAXIMIZE RELIABLITY AND LIFECYCLES

### **OVERHAUL - INHOUSE VERSUS OUTSOURCE**

## 2.15 Identify The Correct Performance Factors To Decide On In House Versus Outsourced Overhaul

- Consider which components can be overhauled in house to save on maintenance costs
- Track KPIs on overhauled systems to extend system lifecycles
- Discuss the staff skills required to ensure quality of in house overhaul

Biju John, Supervisor of Rolling Stock Maintenance, New York City Transit

2.45 Question & Answer Session

### **OBSOLESCENCE**

### 2.55 Decide Between Maintaining And Repairing Older Technologies Or Buying Brand New Assets Or Sub Systems Before Planned Life Span Expires

 Ensure that technologies can keep up with the overall lifespan of the asset and that deficiencies in technologies do not render the asset obsolete before its time

- Strategies for avoiding obsolescence by sustaining technologies and sub-systems longer
- Identify the technology companies and repair houses with the capabilities to support older technologies

This session is reserved for a service provider that demonstrates thought leadership in dealing with obsolescence. For more information please contact

sponsorship@american-business-conferences.com

3.25 Question & Answer Session

**3.35** Afternoon Refreshments In Exhibition Showcase Area

### PANEL: PARTS PROCUREMENT

## 4.05 Compare Reverse Engineering And OEM Parts Sourcing To Minimize Lead Time Without Compromising Safety

- Explore the possibility of procuring parts from third party fabricators to minimize lead time
- Discuss the liability issues of using a non-OEM part to avoid risk
- Safeguard against low quality parts to prevent catastrophic failure

### **Moderated by Chair**

## DOOR RELIABILITY - INCORPORATING NEW TECHNOLOGY

## **4.45** Hear From An OEM On The Next Generation Of Reliable Doors

- Compare the cost and serviceability of pneumatic and electric doors to minimize maintenance costs
- Consider door options that are less maintenance heavy to maximize uptime
- Explore the next generation of door technology to ensure safety and reliability

### 5.15 Question & Answer Session

## **5.25** Chair's Closing Remarks And End Of Conference







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March 15-16, 2017 Washington, D.C

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