

The Industry Responds:

A Roundtable Discussion on the Direction of High-Speed and Intercity Passenger Rail in the United States

As vital to the success of high-speed and intercity rail projects as sound policy-making and good design are the rail industry partners that will manufacture the vehicles, products and technologies that become the physical stuff of these systems. We invited Brian Murphy, Director of Project Development for Bombardier Transportation and Charles Wochele, Alstom Transport's Vice President for Industry and Government Relations, to share their companies' perspectives on the challenges and opportunities presented with these new services.

RAIL Magazine: Tell us a bit about your company's background in high-speed rail services, vehicles and technologies.

Murphy: The systems using our very high speed trains are in China. Amtrak uses the Acela which has a top speed of 150 mph so you may be able to be a representative from Amtrak. Please find below responses to most of your questions. Also please visit www.zefiro.com for further information.

Wochele: Alstom is the number one producer of Very High Speed Trains in the world with over 650 trains built that are operating in eight different countries. With over 30 years of high speed train design and manufacturing experience Alstom has proven to be able to meet diverse client needs wherever they are. Alstom holds the world speed record on rail at 357 mph and is the only company to have developed an articulated EMU Very High Speed Train (AGV) which is currently being produced for the Italian operator NTV. In North America Alstom is a major player in rolling stock designing and manufac-

turing, signaling products/systems, communications systems including train security as well as maintenance and logistics support. The 125 mph certified California Cars (Caltrans), Surfliners (Amtrak and Caltrans) and Viewliners (Amtrak) were all built in our Hornell, NY facility and contained 85% USA content.

Rolling Stock activities covering extensive rehabilitation programs as well as new cars are completed in our Hornell, NY Manufacturing Center of Excellence. Over 7000 cars have been manufactured or remanufactured in this 700,000 sq. ft facility for customers such as Amtrak, Caltrans, Chicago Transit Authority, Metropolitan Atlanta Rapid Transit Authority, Metro North Commuter Railroad, New Jersey Transit, New York City Transit and the Washington Metropolitan Area Transit Authority.

Transport Information Solutions, serving both the freight and passenger rail market, with particular expertise in proven signaling and control systems, and passenger information and security solutions, from our sites in Rochester, NY and Montreal, QC.

Service and maintenance of rail infrastructure and rolling stock, including spare parts supply and logistic chain management, in many sites in the US and Canada under the management of our Train Life Services Group in Chicago, IL.

(For more information, visit: www.transport.alstom.com)

RAIL Magazine: What high-speed rail projects around the world do you consider to be the most innovative in their use of new products or equipment?

Murphy: High speed rail is changing travel all over the world. Examples: The world's fastest sleeper train, running at 155 mph, allows passengers a convenient alternative for long-distance travel. Go to bed in New York, wake up in Florida. Second example: Zefiro 380, the fastest high-speed train is in development and will be in service 2012.

Wochele: The NTV project in Italy using the new Alstom AGV trainset.

RAIL Magazine: What are some of the most common challenges to deploying high-speed rail?

Murphy: Funding and land acquisition.

Wochele: Clearly the number one issue is funding. Without long term federal funding support high speed rail will not get very far in the US. If funding is in place and there is strong public and political support at the state and local levels all other obstacles, whatever they are, will be overcome.

RAIL Magazine: Where do you think high-speed rail would work best in the United States?

Murphy: The HS trains offer the best alternative on medium distance routes, for example Los Angeles to San Francisco. The train offers a substantial time-saving compared to automobiles and the total travel time is similar to airplane travel.

Wochele: My top 5 hopefuls for Very High Speed Rail –185 mph and above – in alphabetical order are: California: San Diego to San Francisco Florida: Miami - Orlando - Tampa Midwest: Chicago Hub with Chicago



Brian Murphy

to St. Louis first
North East Corridor: Washington DC to Boston upgraded to 185 - 200 mph
Texas: Dallas - Houston - San Antonio (Triangle)

RAIL Magazine: How can off-the-shelf vehicles and technologies be adapted to the specific standards and regulations in the United States?

Murphy: The Federal Railroad Administration is hard at work streamlining their regulations to include high-speed trains. The industry is working with the federal government to ensure that the experiences from high-speed train systems in operation in Europe and Asia are considered to use the best technologies available.

Wochele: Since the FRA has not yet issued standards for very high speed rail the answer to this question must remain somewhat open. European standards are the most commonly used around the world and should be considered for the US. They have proven to be extremely safe and allow trains to run on both classical lines and very high speed lines (185 mph and above). Train design requirements used in combination with the European signaling standard ERTMS has worked extremely well with zero fatalities on the French TGV service which started over 30 years ago.

If in the end train manufacturers will be required to adapt to FRA regulations currently on the books such as Tier I or Tier II body compression requirement that would be much more challenging because it would totally change carbody structures and designs, increase train weight which in turn would increase the need for more power which means less efficiency and higher operating and acquisition costs. Another unintended consequence could be lower top speeds that the trains could achieve. The Tier I & II requirements were put in place for mixed traffic applications, not for very high speed rail lines. Requirements like ADA, Smoke and Flame and Buy America can be dealt much more easily.

RAIL Magazine: Where do you think high-speed rail will be in the United States in 10 years? How about 25 years?

Murphy: In ten years we will have a couple of small regional high speed systems such as Tampa-Orlando and maybe Chicago-St. Louis. In 25 years there will be more regional systems with additions to the ones mentioned previously. It took 40 years to complete the Interstate highway system so I would imagine it will take at least the same amount of time for a cross country high speed rail system.

Wochele: The answer to this question is simple. It all depends on funding...funding...and more funding. If the US federal government does not put a long term funding plan in place that guarantees a minimum of \$8 billion a year for the next 20 years high speed rail will be limited in the US. Incremental high speed rail (125 mph and below) can survive with much less funding and is a good start but the benefits to the public will be much more beneficial and dramatic if very high speed train lines are built in the corridors that can support them.



Charles Wochele

RAIL Magazine: What opportunities do you perceive for manufacturing high-speed rail vehicles and products in the United States?

Wochele: The fact is there are already several large companies in place that are manufacturing passenger rail cars in the US. This includes a very long very list of sub-system suppliers and parts suppliers. However time will be required for technology transfers and facility conversions to manufacture very high speed trains in the US. Again there a good base of suppliers already in place in the US that also have divisions in other parts of the world that manufacture parts for high speed trains so they could also transfer that knowledge to the US. The actual market for very high speed trains will depend on the amount of funding given to the states to build new HSR lines. We should not forget that trains are a small part of the overall cost of building a new high speed rail line. In general terms trains are around 7% to 10% of the total cost of a new high speed rail line. For incremental high speed rail trains (125 mph and lower) everything is already in place so we could manufacture these type cars with up to 90% US content today. 