In January 2010, the Federal Railroad Administration (FRA) issued a ruling on the implementation of Positive Train Control (PTC), with a timeline for adoption of the technology by the US rail industry. Following this ruling, several cost-benefit analyses were conducted, including one by L.E. Peabody & Associates, on behalf of the Chlorine Institute. These analyses ascribed large-scale commercial benefits to PTC implementation, including improved car velocity for shippers.

The Association of American Railroads (AAR) President and CEO Edward R. Hamberger has stated “This is the single largest regulatory cost ever imposed on our industry by the FRA, and as such, we take the mandate very seriously.” Due to the critical nature of this technology adoption, the AAR asked Oliver Wyman to respond to these analyses, and deliver an independent evaluation of potential commercial benefits to be derived from PTC. Mr. Hamberger has cited “There are many broad and general assertions out there on business benefits from PTC, so it was important to get an independent analysis and clear up any misconceptions that might exist. Oliver Wyman brings considerable expertise on these issues, both in the U.S. and Europe.”

After analyzing currently available information on PTC and current advancements in the use of technology by the rail industry, including public and private research and data, interviews with industry experts and railroad representatives, and case study information from railroads in North America and Europe, Oliver Wyman has outlined results in 4 categories, with the following conclusions:

1. **Core Assumptions**: Oliver Wyman has found no direct relationship between the use of precision dispatching and the implementation of PTC (precision rail dispatching is computer aided and uses a range of sophisticated techniques to ensure optimum train performance, in terms of network velocity and capacity usage). At the same time, Oliver Wyman has concluded that the adoption of PTC as currently planned by the Class I railroads (independent of precision dispatching) will not materially increase effective line capacity or train speeds, whether on single or multi-track mainlines.

2. **Incremental Benefits Analysis**: Many of the incremental benefits being claimed for PTC are based on the adoption of technologies that are not tied to PTC (such a precision dispatching) and as such should not be ascribed to PTC. Other benefits from PTC would only be realized from the adoption of an “advanced” PTC system, whereas the Class I railroads only plan to implement an “overlay” PTC system to meet FRA mandates. Additionally, Oliver Wyman has outlined the business risks from PTC implementation.
3. **Shipper Benefits Analysis**: Oliver Wyman has concluded that the net benefit to shippers from the planned implementation of PTC will be zero. Improvements in railroad on-time performance, and subsequent shipper benefits, would be attributable to precision dispatching, which is currently not in production use, is being developed independently from the PTC initiative, is not part of the FRA mandated PTC implementation, and is likely to be only marginally influenced by the roll-out of PTC.

4. **European Experience with ERTMS**: ERTMS is designed to overcome interoperability problems between the countries in the EU, due to different control and signaling systems in each country. While the ERTMS system includes safety components similar to those required by US PTC regulations, the primary goal of ERTMS is to make cross-border travel and trade more seamless, rather than to enhance safety or capacity. The key lesson to be learned from the ERTMS experience is that the versions of ERTMS that are most similar to PTC systems being implemented by the US Class I railroads are at best neutral with respect to capacity, and in many cases are showing an adverse impact on capacity. Additionally, the amount of European trackage covered by ERTMS is modest and the system will be implemented much more slowly than in the US, while the costs for implementing ERTMS have been much higher than the costs projected for US PTC system implementation.

**Speaker Bios**

**Carl Van Dyke**, a partner at Oliver Wyman, has amassed over 25 years of consulting and software development experience in the transportation industry. Carl’s core area of expertise revolves around the application of computers to transportation engineering and operational issues with particularly emphasis on railroad network modeling, service design, train scheduling, line capacity analysis, and equipment management. In 1992, Carl founded MultiModal Applied Systems, which became part of Oliver Wyman at the start of 2006. MultiModal Applied Systems is best known for its MultiRail planning products which are used by every North American freight railroad and many others around the world. Some of the operating plans that have been developed by the Class I’s over the past few years have been developed with the help of the MultiModal technology for which Mr. Van Dyke is the author.

Carl started his career as a researcher at MIT and then served as an independent consultant for three years at ALK Associates. He then spent six and one-half years as an employee at ALK Associates. Carl has an undergraduate degree in civil engineering and transportation from MIT, and he also holds a BS in mechanical engineering, Summa Cum Laude, from the University of Pennsylvania.

**Rodney Case** is an Associate Partner in Oliver Wyman’s Global Surface Transportation Practice. He is an international expert in transportation operations planning, strategy development, and performance management, dominantly for the rail freight industry. Mr. Case’s recent case work with European freight railways has focused on helping clients adapt to the new competitive realities of open access by reducing overall costs while increasing flexibility and service levels. Oliver Wyman’s approach of moving from train-centered to shipment-centered strategies is increasing profitability in this short haul market. The transfer of industry-leading practices between European and North American railways continues to generate new value capture strategies for the industry on both sides of the Atlantic.

Prior to joining Oliver Wyman, Mr. Case led a team in the redesign and installation of the operating plan at SNCF, the French national railway. Key deliverables included redefining the carload and trainload network to reduce its complexity by over half, increasing frequency in key lanes to meet both financial and service targets, and developing mixed train operations to stabilize service quality and increase product options while reducing overall operating costs. Mr. Case was the Director of Service Design at Canadian Pacific Railway. He led the preparation of the Integrated Operating Plan (IOP). Key elements of the IOP included service level impacts, system cost analysis, train path planning, train schedule creation, crew and locomotive resource requirements, railcar fleet velocity impacts, rail yard and intermodal terminal workloads, port terminal schedules, connections to foreign railway services, and implementation into daily operations. At Canadian Pacific Railway, Mr. Case was also a Project Manager for the Executive Team of Field Operations. Key projects included railcar acquisition, national labor contract negotiations, and interline railway coordination. Mr. Case received a Bachelor of Engineering Science – civil engineering from the University of Western Ontario and an M.S. in logistics and supply chain management from Cranfield University. He speaks English, French and German.