

HARRAL · WINNER · THOMPSON · SHARP · KLEIN

GENERAL
QUALIFICATIONS



CAPABILITIES

CAPABILITIES AND QUALIFICATIONS

HARRAL WINNER THOMPSON SHARP KLEIN, INC. (HWTSK) is a management consulting group composed of transportation industry executives, consultants, bankers, and entrepreneurs, specializing in the rail industry, multimodal services, and highway transport. We have worked worldwide with investors, entrepreneurs, financial institutions, commercial and state-owned railways, government authorities, Ministries, transit authorities, and suppliers, on strategic, financial, and operational issues related to rail and highway transport issues.

HWTSK also has deep and extensive road and rail transport policy experience. HWTSK has developed and implemented strategies for reforming and restructuring state-owned railways worldwide. We have extensive experience in bringing private investors to the transport and logistics sector through acquisitions, public-private partnerships, and private financing initiatives. In recent years, we have acted as industry advisors on a number of public-private financing transactions for railway passenger equipment, locomotives, maintenance equipment, and infrastructure valued at more than \$20 billion. HWTSK brings together the range of skills needed to evaluate transport industry acquisition and development opportunities and rapidly identify the elements required for profitable operations. HWTSK offers railway-specialized services in:

Due diligence analysis of business opportunities and investment strategies

- Operating review and asset condition assessments
- Market and competitive analyses, revenue forecasts
- Financial analyses and enterprise valuation
- Analysis of the external and regulatory environment

Development of viable deal structures

- Partnering opportunities with local investors, industries or customers
- Financing alternatives, including development bank and commercial sources
- Risk mitigation strategies
- Definition of alternative corporate and legal structures

Preparation of bankable business plans

- Investment requirements
- Operating strategies, plans and schedules
- Marketing and revenue management plans
- Financial analyses including pro forma financial statements

Improving commercial operations

- Cost reduction
- Marketing and revenue enhancement
- IS investments and organization structure changes

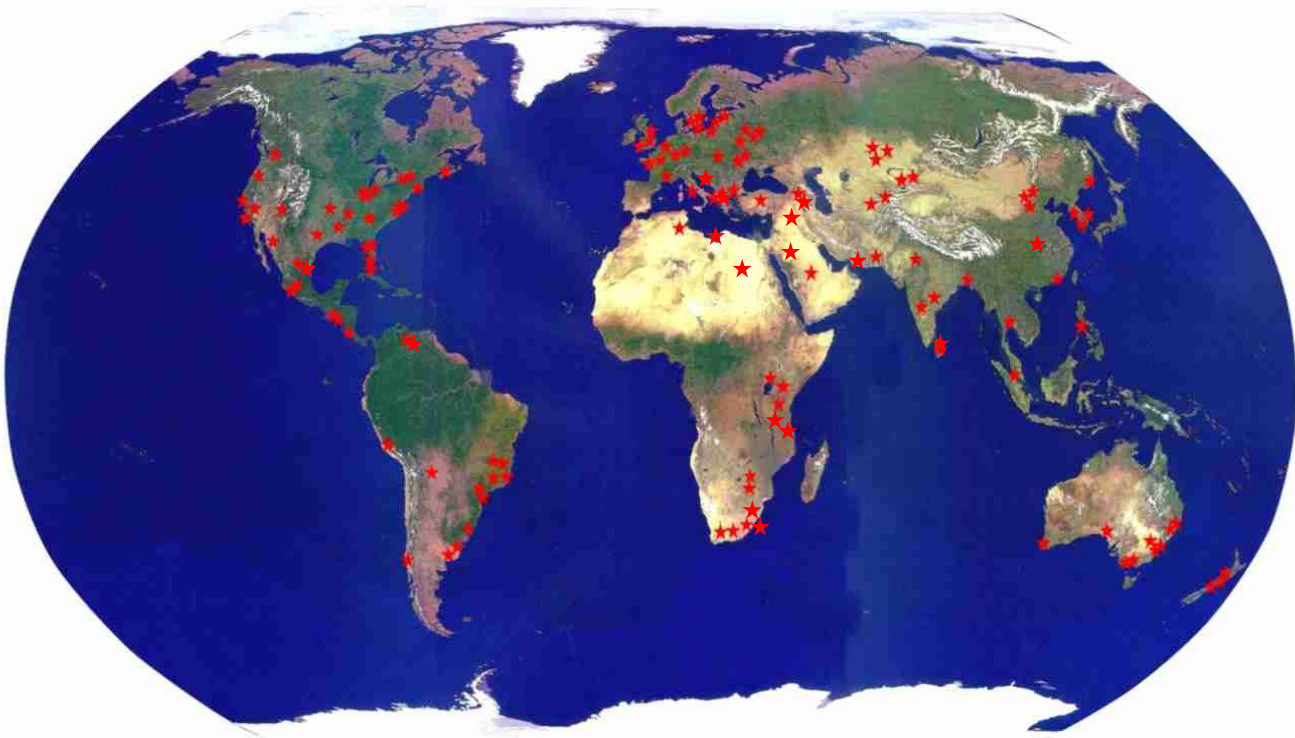
Financing arrangements

- Definition of financing structures
- Market basis of transactions
- Service operations contract arrangements
- International private placements

HWTSK helps investors develop the strategies necessary to compete successfully in international transport markets and to find and acquire strategic interests in rail industry suppliers. We also have the skills to help consummate transactions and make new acquisitions commercially viable.

GEOGRAPHIC SCOPE

The principals of HWTSK have directed transport industry planning, development of sector master plans, industry and departmental restructuring, acquisitions, commercialization, business planning, strategy development, and cost reduction assignment worldwide. While the group is based in the United States, the principals have worked with railways and transport ministers on nearly every continent. The map below shows the locations of selected assignments.



CONTACT INFORMATION

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COMPANY STRUCTURE

Harral Winner Thompson Sharp Klein is incorporated in the United States, under the laws of the state of Maryland. It is wholly owned by its principals. The firm has offices in the United States and the United Kingdom and a representative in Moscow. It affiliates with other consulting groups, law firms, engineering groups, and investment banks depending upon the needs of the project.

PROJECT STAFFING

HWTSK's organizational structure provides flexibility to tailor working arrangements to project needs. We have assembled a team of individual consultants with the experience, unique business sense, and sensitivity to conditions that can make a venture successful. These senior consultants join an HWTSK team whose structure is based upon the requirements of each project.

Together, HWTSK principals and senior consultants provide the technical skills, business savvy and experience needed for effective evaluation of investment opportunities, development of bid and operating strategies, formation of deal structures, and project implementation.

WORKING WITH HWTSK

Depending upon the project, HWTSK works on the basis of a proposed budget, not-to-exceed costs, daily fees plus expenses, a fixed price contract, or on a success fee arrangement. Success fee arrangements can extend from lump sum payments upon successful completion of an investment or transaction, to participating in the proposed investment. Normally, after discussion, working arrangements are spelled-out in a proposal letter from HWTSK that describes the project, deliverables, and fee structure.



COMMERCIALIZATION AND RESTRUCTURING STRATEGY

As economies and markets become more open worldwide, officials in many countries have considered how to restructure important segments of their economies. Transport and communications are fundamental to economic growth and these sectors are generally among the first to be restructured. HWTSK has worked with many governments on such restructuring efforts. We have deep experience in rail transport restructuring. In projects financed by development banks and governments, we have developed commercialization and restructuring strategies for state-owned rail operations in many countries. Commercial enterprises should review their business and commercial strategy on a regular basis – every five years or so. HWTSK helps commercial enterprises develop new strategies to deal with a changing environment.

BUSINESS PLANNING

Business Planning is one of the most important activities carried out by commercial enterprises; planning is especially important when state-owned entities become commercial enterprises, or when existing businesses plan significant new investments. Most companies should refresh business plans annually, as a part of a cycle that includes analyses of market factors, operational capacity and effectiveness, and investment and staffing needs. HWTSK has worked with many companies to analyze market conditions, consider pricing and service requirements, analyze operations, cost structures and capacity, and consider investment needs and alternatives and estimate the impact of all of these factors using financial modeling including full balance sheet, cash flow and income statements.

OPERATIONS ANALYSIS, COST REDUCTION AND INVESTMENT STRATEGY

HWTSK principals have worked with railways and rail industry suppliers in the identification, planning, and implementation of strategies to reduce cost, enhance service, and grow market share through operations and service improvement activities, sharper pricing and strategic investment programs. Cost reduction strategies range from improved use of network resources (e.g., marshalling yards and terminals, rolling stock), to specific improvements in the operation of workshops, track maintenance activities, line capacity analyses, and restructuring operating departments for greater effectiveness. HWTSK principals have conducted operations improvement strategies, process re-engineering projects, and worked with commercial enterprises to redesign work flows and find ways to allocate scarce resources for improved financial performance.

MARKET ANALYSIS, PRICING AND MARKET STRATEGY

Commercial success depends on understanding customer needs. Both long term strategies and short term financial performance depend on accurate market forecasts and pricing strategies that maximize returns while also satisfying customers. HWTSK principals have worked with clients to develop meaningful market segmentation, identify market opportunities, and develop an appropriate mix of product, pricing strategies, client communications, and distribution channel design. We have also helped clients implement decision support systems that provide the cost, revenue, and operational information needed for effective market analysis, and the design and development of new product initiatives.

INVESTMENT FINANCE, FINANCIAL ANALYSIS & MODELING, SYSTEMS

HWTSK has extensive experience in conducting due diligence work needed to finance investment programs. HWTSK principals have extensive experience in investment finance, financial forecasting and analysis, and in the specification and development of financial systems to support marketing, operational, and investment decisions. Using financial modeling techniques developed and refined over years of use, we have been particularly active in railway equipment and infrastructure finance, participating in more than \$20 billion in private sector financing.

TRANSPORT POLICY & REGULATION

HWTSK has advised governments, transport companies, shippers, and financial institutions in all aspects of surface transport policy and regulation. Our work includes advice regarding transport policy and regulation for Transport Ministries, elected representatives, transport associations, transport companies, shipper groups and individual shippers. Policy issues include safety and service regulation, pricing, market dominance, and other competitive issues.

INDUSTRY AWARDS

The group has won several awards for its work in the transport industry.



EXAMPLE PROJECTS

The representative sampling of projects below illustrates the experience of HARRAL WINNER THOMPSON SHARP KLEIN, INC. principals in helping clients succeed in transport industry strategy, analysis, acquisitions, and development projects.

ANALYSIS OF OPPORTUNITY	PRIVATE SECTOR ROLE	MARKET FORECASTS	IMPROVING OPERATIONS	FINANCIAL DUE DILIGENCE	DESCRIPTION OF PROJECT
◆	◆	◆	◆	◆	<p>CAREC RAIL STRATEGY DEVELOPMENT, 2016</p> <p>HWTSK worked with the Secretariat of CAREC and a group of ADB transport specialists to develop a new rail strategy for the Central Asian Regional Economic Cooperation Program (CAREC). The preliminary strategy included only infrastructure investment projects. HWTSK helped expand the strategy to include institutional and commercially oriented reforms such as the development of a CAREC rail operator to jointly own wagons and operate international services across CAREC countries. The strategy will be further developed after discussions within CAREC's Railway Working Group.</p>
◆	◆	◆	◆	◆	<p>OPERATIONAL DUE DILIGENCE, MARKET AND INVESTMENT PROJECTIONS, 2016</p> <p>Working with Adam Smith International's Nigeria Infrastructure Advisory Facility (NIAF), HWTSK reviewed available data on the condition of the 3,500-kilometer cape-gauge railway lines in Nigeria. We then developed operational modalities and estimated infrastructure investment requirements for various levels of freight and passenger traffic. Working with the NIAF team, HWTSK helped prepare an outline business case for concessioning the railways. The case considered various concessioning alternatives and options.</p>
	◆	◆		◆	<p>ADVANCING RAIL SECTOR REFORM IN KAZAKHSTAN, 2015</p> <p>HWTSK helped EBRD review the success of rail sector reform in Kazakhstan over the last decade and develop strategies for advancing those reforms in future lending programs. In this effort, HWTSK identified bottlenecks to further or more rapid reforms and developed an action plan for future reforms for discussion with the Government of Kazakhstan and with KTZ.</p>

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◆	◆	◆	◆	◆	<p>SOUTH ASIAN RAILWAY CORRIDORS DIAGNOSTIC STUDY, 2015</p> <p>For the World Bank, HWTSK prepared a Rail Corridor Diagnostic Study for the rail corridors between Pakistan, India, and Bangladesh. The report drew on an extensive body of World Bank research work to develop a series of recommendations to further the development of rail freight traffic between the three countries.</p>
◆	◆	◆		◆	<p>RAIL FREIGHT CAR NEW DEMAND, LEASE PRICES IN RUSSIA, KAZAKHSTAN, AND UKRAINE 2015</p> <p>HWTSK provided assistance to a private enterprise seeking to refinance dollar denominated debt in Russia and considering the prospects of entering the freight car leasing market in Kazakhstan and/or Ukraine in the near future. HWTSK reviewed current market conditions and macroeconomic projections from a number of sources (including IMF, EBRD, and IFC, among others), reviewed recent transactions and the history of freight car prices and lease rates in each market. Three different reports were produced, one for each market opportunity, and then discussed with external financing entities.</p>
	◆		◆		<p>MARKET DUE DILIGENCE FOR PAKISTAN RAIL OPERATOR FOR IFC, 2015</p> <p>For the IFC, HWTSK reviewed the market for rail transport of containers, coal, cement, and clinker between Karachi and several up-country locations in northern Pakistan including Lahore, Lalamusa, and Daud Khel. Our market review considered volumes, market shares, and likely revenue potential of privately operated container and bulk trains. As a part of the analysis, HWTSK constructed a simple financial model to evaluate the financial feasibility of the proposed concession project.</p>

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	◆		◆		<p>RUSSIAN RAIL ACCESS CHARGES FOR EBRD, 2010-14</p> <p>Carried out four major reviews of rail freight access charges in Russia to assess whether they discriminate against traffic carried to land borders, particularly to the Baltic States. Assessed compliance with Russia’s commitments to the World Trade Organisation.</p>
◆	◆	◆		◆	<p>PRIVATE CLIENT: RUSSIAN RAILWAY CAPACITY, 2014</p> <p>HWTISK was asked to evaluate the capacity of RZD railway lines serving the Taman Peninsula. Our client is planning a major investment in specialized port facilities on the Peninsula and was concerned about the ability of the Russian railway to provide the train services needed for a major increase in traffic from various sources in Russia and Kazakhstan for export through the new port facilities. HWTISK’s report was accepted by a Lender Consortium for its due diligence for equity investments and financing for the new facilities.</p>
◆	◆	◆	◆	◆	<p>WORLD BANK: ANALYSIS OF LOGISTICS SERVICES IN KAZAKHSTAN, 2014</p> <p>For the World Bank, HWTISK worked with a Bank team to evaluate logistics services in and across Kazakhstan as a part of an effort to create a plan to enhance Kazakhstan’s role in east-west trade between China, CIS countries, Eastern Europe and the European Union. HWTISK reviewed rail logistics services and evaluated new investments in Khorgos interchange terminal on the Kazakh/Chinese border.</p>

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◆	◆	◆	◆	◆	<p>WORLD BANK: COMPETITIVE ANALYSIS OF KAZAKHSTAN FREIGHT TRANSIT ROUTES FOR FLOWS BETWEEN ASIA AND EUROPE</p> <p>In a follow-on project with the World Bank team, HWTSK fielded a team of technical specialists including a Chinese logistics consulting group, representatives of China Academy of Sciences, and specialists in Moscow and the EU to evaluate potential traffic flows for rail transit between China and Europe. The team interviewed current container shippers for these routes in Europe and China, worked with the Bank's trade-flow specialist who had developed data on trade flows by zone in China and by country in Europe and CIS countries to evaluate current rail prices, and shipper costs for such flows. Based on this analysis, the team identified a number of actions for KTZ, the national rail carrier in Kazakhstan, to improve the potential for freight flows across Kazakhstan's rail links.</p>
◆	◆	◆	◆	◆	<p>LENDERS' ENGINEER RIFT VALLEY RAILWAY, 2011-2014</p> <p>For an international group of lenders, Mr Winner currently is serving as the Lenders' Engineer and independent advisor on the re-financing and investment planning for the Rift Valley Railway in Kenya and Uganda (RVR). RVR is the successor in Kenya and Uganda of the East African Railway that formerly included the Tanzanian Railway.</p>
	◆		◆		<p>ROMANIAN RAIL INFRASTRUCTURE ACCESS CHARGES, FOR RAIL INFRASTRUCTURE COMPANY AND EBRD, 2013</p> <p>Analysed and prepared a report on infrastructure access charges in Romania and their compliance with European Union legislation, as part of a project with the European Bank for Reconstruction and Development (EBRD).</p>
◆	◆	◆		◆	<p>NEW FREIGHT WAGON TECHNOLOGY, MANUFACTURING & FOUNDRY, 2013</p> <p>HWTSK conducted a market and technology due diligence effort for a proposed equity and debt financing for a new wagon manufacturing plant that would produce new design high-axle load bogies and wagons for the Russian and CIS markets. HWTSK reviewed the technology, new manufacturing facilities, and Russian and CIS market demand for these new wagon designs. HWTSK investigated the technology, new designs, the ownership structure and financial strength of the borrower, interviewed management, developed a financial model of the company, prepared traffic forecasts for the commodities moving in the target railway equipment, analyzed the evolving market for this type of wagon and reviewed the economic environment, and the evolving regulatory environment for railway operators and carriers in Russia.</p>

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◆	◆	◆		◆		<p>NEW WAGON PURCHASES FOR MAJOR RUSSIAN COAL PRODUCER, 2013</p> <p>IFC requested HWTSK assistance in conducting due-diligence for a loan to a private sector entity in Russia for new railway equipment. The proposed entity was a leasing subsidiary of a major Russian coal producer. HWTSK investigated the coal producer's production plans and strategy, its proposed traffic flows and both international and domestic markets for the parent's coal production. In this effort, HWTSK investigated the operating plan for the new equipment, surveyed the RZD network for capacity constraints affecting major new flows, and analyzed RZD investment plans for capacity expansion. Based on this analysis, HWTSK prepared traffic forecasts, analyzed evolving technologies for coal movements and evaluated the financial returns and risks associated with the borrower, the economic environment, and the evolving regulatory environment for railway equipment owners, operators and carriers in Russia.</p>
◆	◆	◆		◆		<p>DUE DILIGENCE: PRIVATE INVESTORS IN RUSSIAN RAIL SECTOR, 2013</p> <p>EBRD requested HWTSK assistance in conducting due-diligence for a loan to a private sector entity in Russia for railway equipment. HWTSK investigated the ownership structure and financial strength of the borrower, interviewed management, developed a financial model of the company, prepared traffic forecasts for the commodities moving in the target railway equipment, analyzed the evolving market for private locomotive ownership and evaluated the financial returns and risks associated with the borrower, the economic environment, and the evolving regulatory environment for railway operators and carriers in Russia.</p>
◆	◆	◆	◆	◆		<p>WORLD BANK: ANALYSIS OF NEW RAIL LINE IN KYRGYZSTAN, 2013</p> <p>For the World Bank, HWTSK worked with a team of Bank and Kyrgyzstan rail experts to evaluate the feasibility of building a new rail line across southern Kyrgyzstan connecting China Railways with the Uzbekistan rail network. The team worked to develop traffic forecasts, investment requirements, equipment requirements, and potential ownership structures for the proposed railway. HWTSK evaluated financing requirements, potential concession structures for a public-private-partnership project, and evaluated the potential financial performance of the proposed investment.</p>

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	◆	◆	◆	◆	<p>REVIEW OF MOZAMBIQUE’S SENA LINE RAILWAY, 2012</p> <p>Mr Winner and Mr Drew recently conducted a review of Mozambique’s Sena Line Railway concession for the European Investment Bank. The review included demand analyses, estimations of tariffs, review of financial and construction performance with the view to help EIB understand policy options for the future control and operation of the Sena Line railway, subsequent to the release of the incumbent concession operator.</p>
◆	◆	◆	◆	◆	<p>NATIONAL TRANSPORT DEVELOPMENT POLICY COMMITTEE, INDIA, 2011</p> <p>HWTSK was engaged by the World Bank to support the Government of India’s efforts to develop a new transport policies covering multiple modes. Working with our team, which included Purdue University’s Dr Kumares C Sinha and Samuel Labi, HWTSK prepared a summary report, <i>India Highway Transport Overview Paper – Issues for India</i>, as well as six supplementary reports covering various aspects of highway policy including design standards, volume benchmarking, direct charging, Information Systems in Highway Management, energy efficiency in transportation, and institutional structures and regulatory frameworks for transport modes for the Government of India.</p>
◆	◆	◆	◆	◆	<p>INDIA NATIONAL HIGHWAY AUTHORITY: PERFORMANCE ASSESSMENT, 2011</p> <p>HWTSK was asked by the World Bank to evaluate progress of the institutional development components for the National Highway Authority of India (NHAI) contained in the Bank’s first two National Highway Projects and recommend further steps, particularly with respect to (i) road information systems development and implementation; (ii) corridor management systems for operations and management; (iii) road safety improvement measures; and (iv) risk management structures attendant to the switchover from sovereign finance and management to PPP finance of national highways development..</p>
◆	◆	◆		◆	<p>ANALYSIS OF SPECIAL RAILWAY PROJECTS IN INDONESIA, 2011</p> <p>HWTSK worked with the Government of Indonesia to determine how Special Railway projects might be advanced more quickly within the current set of laws and regulations in Indonesia. In this project we investigated several privately financed special railway projects to determine how they might be approved or restructured so that they could be approved by Indonesia’s various Ministries. At the same time, HWTSK developed recommendations for how the existing regulatory environment might be easily modified to permit more rapid development of private railways in Indonesia, including railway links such as the Airport Rail Link.</p>

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	◆	◆			<p>MONGOLIAN RAIL ACCESS CHARGES, FOR ADB & MONGOLIAN RAIL AUTHORITY, 2011</p> <p>Led team reviewing relevant international rail experience in access arrangements and track access charges. Reviewed approaches in various European countries, North America, Australia and Russia. Developed a system of charges for Mongolia that would encourage private development of infrastructure. The report was published by the Asian Development Bank.</p>
◆	◆	◆	◆	◆	<p>DUE DILIGENCE: KAZAKHSTAN’S EASTCOMTRANS LLP, 2011</p> <p>Working with the IFC, HWTSK provided due diligence analysis of the market for rail freight wagons in Kazakhstan for a private rail operator in Kazakhstan. The Due Diligence effort included an analysis of the economy of Kazakhstan and its future growth prospects by important economic sector (especially oil and gas, coal and minerals development, and coal production). It also included a review of the railway regulatory structures in Kazakhstan and the prospect for changes in those structures as the national carrier continues its restructuring program.</p>
	◆	◆	◆	◆	<p>KTZ EXECUTIVE EDUCATION PROGRAM, 2011</p> <p>Mr Winner is working with Duke University Executive Education Program to develop an railway focused executive education program for the top 50 executives at KTZ. The program is at the request of the president of KTZ. Development of the education program is the responsibility of Duke University; Mr Winner serves as the rail sector expert to the Duke University Team and is responsible for conducting the rail focused portions of the education program.</p>
◆	◆	◆			<p>CHINA RAILWAY PRICING STRATEGY, 2010</p> <p>HWTSK conducted an analysis of railway pricing alternatives and coordinated the work of other international experts on rail transport pricing. This work included a review of European rail passenger pricing strategies, North American rail freight pricing strategies, and Australian passenger and freight pricing practices. It also included a review of current Chinese pricing policy and developed a synthesis of the various methodologies to provide China with recommendations for more market responsive pricing practices across railway services, including high-speed rail services, conventional rail passenger services, and market based pricing in various freight markets.</p>

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◆	◆	◆	◆	◆	<p>INDONESIA RAILWAY MASTER PLAN DEVELOPMENT, 2010</p> <p>HWTSK provided assistance to the Government of Indonesia for the development of its railway master plan covering the development of railway passenger and freight services and new rail system developments though out the country. The railway master planning effort involved a review of current railway operations and the status of its assets, markets, and investment plans. The process also required interviewing customers, including passengers and shippers, to evaluate demand and service requirements. The team also evaluated the regulatory environment and the opportunities available for private investment and PPP financed projects.</p>
	◆		◆		<p>ECONOMIC ASSESSMENT OF THE PADMA RIVER BRIDGE PROJECT, 2010</p> <p>HWTSK worked with the World Bank to carry out an economic due diligence assessment of the Bangladesh Padma River Bridge Project. The bridge, a major structure over the Padma River, carries both rail and road traffic and was projected to cost much more than the initial estimates, requiring another assessment. The project was inspected, railway and highway operations observed, traffic counts and projections reviewed and a new economic evaluation conducted.</p>
◆	◆	◆	◆	◆	<p>LENDERS' ADVISOR FOR PRIVATE MONGOLIAN HEAVY HAUL LINE, 2010</p> <p>HWTSK serves as lenders' advisors to a group of lenders (including ADB, IFC, and EBRD) financing the construction of a standard gauge railway line from Mongolia's Tavan Tolgoi coal fields to the Chinese border. This nearly \$1 billion project is designed to help Mongolia exploit its vast mineral resources while helping satisfy China's growing demand for energy sources.</p>
◆	◆	◆	◆	◆	<p>PERFORMANCE SPECIFICATIONS FOR DEDICATED FREIGHT CORRIDOR, 2009</p> <p>In this project, HWTSK worked with a number of engineering specialists in India to develop a performance specification for the new dedicated freight corridors being developed by Indian Railway's subsidiary, DFCCILtd. HWTSK's role in the project was to help assemble the team of specialists, coordinate engineering issues across specialties, and ensure that an acceptable performance based specification was developed for the corridor projects.</p>
◆	◆	◆			<p>COMPARISON OF TRANSPORT DEVELOPMENT IN CHINA AND INDIA, 2009</p> <p>For the Asian Development Bank, HWTSK conducted a comparative analysis of surface transport development in China and India, comparing rail and road transport investments and evaluated the impact of those investments on the economic development of both countries.</p>

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◆	◆	◆	◆	◆	<p>MONGOLIA – CHINA TRADE FACILITATION, 2009</p> <p>In this ADB funded project (TA-6370), HWTSK directed a five person project team to consider the challenges and opportunities to developing trade between China and Mongolia (and transiting Mongolia). The project considered trade flows and various measures to harmonize transport development and reduce trade impediments. A special task was to consider potential for growing rail traffic and included the development of an investment strategy for improving Mongolian Railways infrastructure, border facilities, and container facilities in Ulaanbaatar.</p>
◆	◆	◆	◆	◆	<p>FESCO RAIL DUE DILIGENCE, 2009</p> <p>HWTSK provided due diligence support to a group of investors including several development banks in the re-financing of medium-term debt for one of Russia’s largest integrated transportation enterprises. The enterprise includes ocean shipping assets, ports and terminals, and rail operations and equipment leasing assets. HWTSK was responsible for the due diligence on rail assets and the various companies owned by FESCO that provided rail services. We also participated in the review of the companies integrated logistics strategy and its plans to provide intermodal services from various ports to inland terminals and for domestic operations.</p>
◆	◆	◆			<p>ANALYSIS OF INVESTMENTS IN FREIGHT WAGON MANUFACTURING, 2009</p> <p>For the International Finance Corporation, HWTSK produced an investment memorandum projecting the demand for freight wagons in Russia and other CIS countries. The analysis included a projection of rail freight demand, equipment utilization trends, and the age and characteristics of the Russian and CIS wagon fleet. The analysis was used to evaluate the risks associated with an equity investment in a freight wagon builder.</p>

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◆	◆	◆	◆	◆		<p>UKRAINE RAILWAY BUSINESS PLAN, 2009</p> <p>HWTSK assisted Ukrzaliznytsia, the national railway of Ukraine, develop a commercialization and restructuring plan. This effort involved defining the role of UZ and the Government of Ukraine in the provision of passenger services, developing a traffic and revenue forecast, setting out cost reduction measures, prioritizing investments to support cost reduction and developing a financial forecast of railway operations to support financing for the restructuring effort.</p>
◆	◆	◆				<p>WORLD BANK: INDIA AND CHINA ROAD AND RAIL DEVELOPMENTS, 2008</p> <p>HWTSK conducted a review of the efficiency of the road transport industry in India and recommended appropriate policy measures to support an efficient industry. The Bank extended the scope of this work to encompass a comparative evaluation of the development of the road and rail transport over the past 10 years in China as well as India, with a view to identify successful models that are potentially transferable.</p>
◆	◆	◆		◆		<p>ARMENIAN RAILWAY SALE OF CONCESSION TRANSITION SUPPORT, 2006</p> <p>HWTSK is proving continuing support to the Government of Armenia in the sale of a concession for the Armenian Railway. HWTSK worked with a Ministerial Committee to resolve legal and structural issues related to the concessioning process, assisted in the development of a new Railway Law, produced terms and conditions and a model concession agreement. We also worked with the World Bank and Armenian Railway to specify studies needed for the concessioning process including environmental assessment, a critical bridge and structure study, land survey and cadastre updates, as well as advice on the structure of the Ministry of Transport and Communication for railway oversight. HWTSK prepared a preliminary information memorandum and arranged and conducted a Concession road show in London.</p>

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◆	◆	◆	◆	◆	<p>RUSSIAN LOCOMOTIVE BUILDER DUE DILIGENCE, 2008</p> <p>For the EBRD and potential investors, HWTSK conducted a due diligence analysis of a new Russian manufacturer of locomotives. The manufacturer had developed a new electric locomotive design for the Russian and CIS markets and had also acquired ownership of other manufacturing capabilities in related market segments (shunting locomotives and medium-speed diesel engines). HWTSK analysis included inspection of the facilities for each market segment, a review of the products and designs to be manufactured and marketed, interviews with management and design engineering staff, discussions with marketing and aftermarket staff, as well as preparation of forecasts for locomotive acquisitions by type in Russia and other CIS countries. The analysis assessed the risks associated with each component of the business and each market segment.</p>
◆	◆	◆	◆	◆	<p>RAIL SECTOR INVESTMENT IN CHINA FOR IFC, 2007</p> <p>HWTSK provided due diligence support to the International Finance Corporation for a project in China. IFC was considering financing a major expansion of a railway castings manufacture in China and sought HWTSK assistance in market analysis, review of foundry operations and quality control practices, and an evaluation of the feasibility of the proposed project. Our work included an assessment of the market for railway casting products in China and worldwide, contact with North American customers of the foundry and an on-site inspection and review of the proposed facility.</p>
◆	◆	◆		◆	<p>WORLD BANK: GEORGIAN RAILWAY PRIVATIZATION, 2007</p> <p>HWTSK prepared an analysis of options for increasing private sector participation in the rail sector in the Republic of Georgia. This work followed on from work with USAID, the Government of Georgia, and the Georgian Railway in the development of a restructuring plan for the railway. Our assessment included a review of private participation in the rail sector world wide and included private rolling stock ownership, forwarders and leasing companies as well as rail operators, carriers, and concession arrangements. Our report was presented to the Government of Georgia as it contemplated privatization alternatives for Georgian Railway.</p>

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◆	◆	◆	◆	◆		<p>ANALYSIS OF FREIGHT WAGON DEMAND IN UKRAINE FOR EBRD, 2007</p> <p>For the European Bank for Reconstruction and Development, HWTSK conducted an analysis of the demand for freight cars in Ukraine. The project involves an investment of more than US\$1 billion for gondola type wagons for the Ukrainian Railway (UZ) in a non-sovereign transaction. HWTSK analyzed market trends, produced a 15 year forecast for freight and rail traffic in Ukraine, analyzed the private and UZ wagon fleet and projected the demand for freight wagons in Ukraine. Further, the analysis extended to a general projection of demand for freight wagons in Russia and other CIS countries to analyze the risk associated with equity investments in the freight wagon fleet.</p>
◆	◆	◆		◆		<p>MOATIZE COAL TRANSPORT STUDY, 2006</p> <p>For the Government of Mozambique, HWTSK analyzed alternative routes for the transport of coal from the Moatize coal fields. The analysis included a review of rail and port infrastructure requirements as well as transport costs from source to ultimate destination of mine products. The analysis considered capital and operating costs for transport and a variety of ship sizes. Both rail and port operations were public-private partnerships in the form of privately operated concessions for public infrastructure. Private investment, subsidized by government guarantees of Development bank loans, also play a role in the project.</p>
◆	◆	◆	◆	◆		<p>ARMENIAN RAILWAY RESTRUCTURING, 2005</p> <p>For the Government of Armenia and working with the World Bank, HWTSK developed a railway restructuring plan for Armenian Railway. The plan includes development of traffic forecasts for the transport sector and the railway, analysis of investment requirements, identification of opportunities for private sector participation in the sector, the development of profit center based business structure, and an analysis of the impact of restructuring on railway and rail sector employment in Armenia. A private vertically integrated concessioning structure was recommended and adopted by government. Concessioning of the railway is underway and should be completed by mid 2008.</p>

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◆	◆	◆	◆	◆		<p>GEORGIA RAILWAY ASSESSMENT AND RESTRUCTURING STRATEGY, 2005</p> <p>Working as subcontractors to Booz Allen Hamilton on this important USAID sponsored project in Georgia, HWTSK principals managed several consulting teams and provided on site management. The project assessed the current condition of rail sector assets, markets, and laws in Georgia; helped develop a dynamic strategy model of the Georgian Railway Sector; created forecasts for passenger and freight rail transport markets, supervised the development of financial models; and helped develop recommendations for restructuring the rail sector in Georgia to improve private sector participation and sector efficiency.</p>
◆	◆	◆		◆		<p>INTERNATIONAL FINANCE CORPORATION RUSSIAN RAIL INVESTMENTS, 2005</p> <p>HWTSK provided due diligence support to the IFC in a series of private sector investments in the rail sector. Our work included an analysis of the evolving Russian railway sector, and the prospects for privately financed railway rolling stock in a number of different sectors of the economy (including oil & gas, timber and lumber, minerals and ores, fertilizers) for this international lender. As a part of this work, HWTSK considered the evolving regulatory structure and developed an analysis of the risks associated with different regulatory developments, of the sectoral development of the Russian economy, and market prospects for several rail hauled commodities.</p>
			◆			<p>UNION PACIFIC RAILROAD, 2005</p> <p>HWTSK worked with MultiModal Applied Systems and the Union Pacific Railroad to develop a new operating plan to improve traffic flows and reduce congestion across this major US railroad. The plan, called the Union Pacific Unified Plan (UP²), has resulted in improved velocity across the UP network and substantially reduced UP operating costs.</p>
◆	◆	◆		◆		<p>RUSSIAN TANK WAGONS: PRIVATE CLIENT, 2004</p> <p>HWTSK completed a due diligence project for an investment bank lending for an acquisition of a Russian tank wagon operating company. We advised the bank on the risks and potential returns that might be expected in this rapidly evolving market.</p>

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◆	◆	◆	◆	◆	<p>PRIVATE CLIENT, 2004</p> <p>HWTISK conducted several studies for a private client interested in the evolving rail Russian rail market and in understanding how shippers might be treated as reforms in the sector evolve. The private client was considering several significant investments in Russia. Our work included an analysis of the evolving Russian railway sector, the prospects for private investments in the rail sector and the market prospects for a number of sectors of the Russian economy (including oil & gas, timber and lumber, minerals and ores, and fertilizers) HWTISK considered the evolving regulatory structure and developed an analysis of the risks associated with different regulatory developments, of the sectoral development of the Russian economy, and world-wide market prospects for several rail hauled commodities.</p>
◆	◆	◆		◆	<p>PRIVATE SECTOR INVESTORS IN RUSSIAN RAIL SECTOR FOR EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT, 2004</p> <p>EBRD requested HWTISK assistance in conducting due-diligence for a loan to a private sector entity in Russia for railway equipment. HWTISK investigated the ownership structure and financial strength of the borrower, interviewed management, developed a financial model of the company, prepared traffic forecasts for the commodities moving in the target railway equipment, analyzed the evolving market for private locomotive ownership and evaluated the financial returns and risks associated with the borrower, the economic environment, and the evolving regulatory environment for railway operators and carriers in Russia.</p>
◆	◆	◆		◆	<p>INTERNATIONAL FINANCE CORPORATION CIS RAIL SECTOR VALUATION</p> <p>For the IFC, HWTISK conducted an analysis of rail sector investments worldwide to develop a method for valuing privatization of rail sector entities in Russia and other CIS countries. Our work considered concessioning and sale of railway enterprises (freight forwarders, equipment leasing companies, rail sector operators, vertically integrated railways (i.e., rail operations including infrastructure, rolling stock, and operating rights) in open access and limited access environments. The valuation analyses also considered the impact of regulatory reforms, and the overall business environment.</p>
◆	◆	◆			<p>PRIVATE SECTOR RISK ANALYSIS FOR SWISS FEDERAL RAILWAY & UBS, 2004</p> <p>For the Swiss Federal Railways and UBS, Mr Klein performed technical due-diligence on a fleet of over 27,000 leased tank wagons. Provided estimates of financial risk and costs to remediate conditions.</p>

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	◆	◆	◆	◆	<p>UZBEKISTAN RAILWAYS FREIGHT TRACTION RENEWAL PROJECT, 2003</p> <p>As senior consultant to EBRD, Mr Harral evaluated Uzbek master plan for enterprise restructuring and associated capital investment program, assessed financing capacity, identified components to be financed by EBRD, defined loan conditionalities, and led EBRD team in early loan negotiations, including co-financing discussions with Asian Development Bank.</p>
◆	◆	◆	◆	◆	<p>RESTRUCTURING AND REFORM OF TURKISH RAILWAY (TCDD), 2003</p> <p>Working with TDCC and the World Bank, Mr Winner reviewed railway reform plans and current railway performance for TCDD, the Turkish National Railway. Based on a financial analysis of alternatives railway structures and networks. The analysis was used to develop refinements to Turkey's rail sector restructuring program to encourage private sector participation in the sector.</p>
◆	◆	◆	◆	◆	<p>LATIN AMERICA CONCESSIONING RETROSPECTIVE 2003</p> <p>For the Railways Adviser, World Bank, Mr Sharp prepared a review of the results of some four dozen railway restructurings in Latin America based on the concessioning strategy. The study encompassed freight and passenger concessions in Argentina, Bolivia, Brazil, Chile, Colombia, Mexico and Peru. Results were assessed in terms of impact on productive and allocative efficiencies, investment levels, adequacy of concession procedures, regulatory oversight, market shares, network inspection and public sector-private sector responsibilities, culminating in a World Bank transport policy paper and contributions to the World Bank railways database.</p>
			◆		<p>CSX TRANSPORTATION OPERATING PLAN, 2002</p> <p>Mr Winner worked with MultiModal Applied Systems and CSX Railroad to develop a new CSX operating plan to improve traffic flows, reduce car-handlings and other operating costs. This plan, the CSX One Plan, has resulted in improved velocity across the CSX network, substantially reduced CSX operating costs, and resulted in significant improvements in CSX's operating ratio.</p>

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◆	◆	◆		◆	<p>NEW JERSEY TRANSIT</p> <p>HWTSK worked with NJT, Fleet Capital Leasing, and Macquarie Corporate Finance to develop a methodology for private sector financing the infrastructure of the Hudson Bergen Light Rail line. A paper about PPP financing mechanisms was published in the Transport Law Review in the 2003 Spring issue.</p>
◆	◆	◆		◆	<p>KINGDOM OF SAUDI ARABIA BOT, 2002</p> <p>HWTSK assisted the Ministry of Petroleum and Minerals to develop negotiating positions in discussions with investors relating to the development of a new railroad linking ports to minerals production areas on a Build-Operate-Transfer basis.</p>
◆	◆	◆	◆	◆	<p>FURTHERING RAILWAY REFORM IN UZBEKISTAN, 2001</p> <p>Working with the railway of Uzbekistan (UTY) and various government departments, HWTSK developed a master plan for the development of UTY's railway infrastructure and operations on a commercial basis. The project involved the development of a financial model for the railway and for its many subsidiaries including engineering, workshops, passenger services, container operations, and refrigerated freight services companies. The project had Asian Development Bank financing.</p>
◆	◆	◆	◆	◆	<p>KAZAKHSTAN RAILWAYS BUSINESS PLAN, 2001</p> <p>For Kazakhstan railways, HWTSK prepared a comprehensive business plan including a market forecast, operations plan, investment plan and financial forecasting model. The plan was used to support a loan from the EBRD. In a second phase of this work, HWTSK developed a financial model, made projections for revenue and operating expenses, and projected capital needs associated with meeting these forecasts while renewing the railways infrastructure. These financial projections were used to help secure a bond rating and eventually sell KTZ first Euro-based bonds for financing the railway's investment program.</p>
	◆		◆		<p>MRS LOGISTICA, 2001</p> <p>For MRS Logística, Mr Winner, working with a Mercer Management Consulting team, analyzed costs and operations of heavy haul and merchandise services, comparing them to benchmark railway services. The project identified opportunities for MRS to reduce its costs, particularly in maintenance of track, maintenance of locomotives and fuel consumption. The project developed investment strategies to transform the company's iron ore operations into high-quality, low-cost unit-train based services.</p>

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◆	◆				<p>PORT OF SANTA MARTA, 2001</p> <p>HWTSK worked with the Port of Santa Marta and Global Insight, an econometric forecasting company, to develop a strategy for the port to participate in revised rail concessions in Colombia. The endeavor was a public-private partnership in the form of a concession for state owned infrastructure.</p>
◆			◆		<p>TRANSPORT STRATEGY DEVELOPMENT FOR THE ADB, 2001</p> <p>HWTSK worked with experts from the Asian Development Bank to evaluate past lending practices in transport and develop a new strategy to direct ADB transport lending.</p>
◆	◆	◆		◆	<p>INFRASTRUCTURE COST MODEL FOR PAKISTAN RAILWAYS, 2000</p> <p>Mr Sharp helped develop a financial model for Pakistan Railways that allows it to understand its costs of providing infrastructure access, to differentially price access based on the rates charged by truck competitors and the services negotiated, and to examine the impact of the access charges on the financial situation of the railway.</p>
◆	◆	◆	◆	◆	<p>RAIL STRATEGY FOR QUEENSLAND RAILWAYS, 2000</p> <p>Working with Mercer Management Consulting, the board of directors of Queensland Railways, government officials, and major shipper groups, Mr Winner helped develop railway reform strategies that allowed QR to remain an integrated railway while meeting the requirements of the National Competition Act which requires access to strategic assets.</p>
◆	◆	◆	◆	◆	<p>IMPACT OF RUSSIAN & CIS RAIL MARKET REFORMS: PRIVATE CLIENT, 2000</p> <p>HWTSK conducted several studies for a private client interested in the evolving rail Russian rail market and in understanding how shippers might be treated as reforms in the sector evolve. The private client was considering several significant investments in Russia. Our work included an analysis of the evolving Russian railway sector, the prospects for private investments in the rail sector and the market prospects for a number of sectors of the Russian economy (including oil & gas, timber and lumber, minerals and ores, and fertilizers) HWTSK considered the evolving regulatory structure and developed an analysis of the risks associated with different regulatory developments, of the sectorial development of the Russian economy, and world-wide market prospects for several rail hauled commodities.</p>

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◆	◆	◆		◆	<p>FINANCIAL ADVISORS TO SOUTH BALKANS DEVELOPMENT INITIATIVE, 2000</p> <p>In a program sponsored by US Trade & Development Agency, HWTSK served as financial advisors to the Finance and Transport Ministries of Albania, Bulgaria and Macedonia for the development of the South Balkans transport corridor and other transport infrastructure between the countries.</p>
◆	◆	◆	◆	◆	<p>KAZAKHSTAN RAIL SECTOR RESTRUCTURING & DEVELOPMENT PROGRAM, 2000</p> <p>For the Asian Development Bank, HWTSK developed a rail sector restructuring program for Kazakhstan. The proposed program introduces rail services competition throughout the Kazakh rail network, separates passenger services into a new state enterprises, establishes the fundamental principals of access pricing and a transparent access-fee based charge for passenger cross subsidy arrangements. The program also recommended \$85 million in railway investments plus a \$50 million sector development loan for the government, to be financed by ADB.</p>
◆	◆	◆	◆	◆	<p>RESTRUCTURING SOUTH AFRICAN RAILWAYS, 2000</p> <p>Working with Mercer Management Consulting, Messer's Winner and Klein assisted in the evaluation of rail freight operations and equipment in any potential restructuring of the freight operations of the South African Railway.</p>
◆	◆	◆	◆	◆	<p>COSTA RICA AND EL SALVADOR PRIVATIZATIONS, 1999</p> <p>Mr Sharp helped review feasibility of rail privatization projects in Costa Rica and El Salvador, including evaluating traffic prospects, investment requirements and overall financial feasibility. Developed terms of reference for a transaction advisor to the Instituto Costarricense de Ferrocarriles (INCOFER)</p>
◆	◆	◆	◆		<p>FERROVIA SUL ATLANTICO OPERATIONAL ANALYSIS, 1999</p> <p>Mr Sharp helped railway identify ways to enhance equipment utilization, improve service times, and decrease capital investment requirements, so that the railway could handle more business, using existing track and rolling stock. Study focused on capacity and investment in FSA's key soybean business.</p>

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◆	◆	◆		◆	<p>CHINESE INTERMODAL OPPORTUNITY, 1998</p> <p>Over a period of several years, Mr Thompson worked with the Chinese Railways to develop procedures and schedules for intermodal train operations. The work included the potential for formation of a new equipment leasing company (containers, freight cars and locomotives) and intermodal operating companies managing terminals and providing intermodal delivery services.</p>
◆	◆	◆	◆	◆	<p>WESTRAIL PRIVATIZATION STRATEGY AND METHOD, 1998</p> <p>Working with Mercer Management Consulting, Booz Allen Hamilton, Deutsche-Morgan Grenfell investment bankers, and several local law firms, Mr Winner directed a project to assist the Government of Western Australia in a review of commercialization and privatization strategies for Westrail. This analysis considered various forms of concessioning, privatization, continued government ownership, separation of infrastructure from above rail operations and other structural reforms. The reforms were made and Westrail privatized in a series of transactions.</p>
◆	◆	◆	◆	◆	<p>RUSSIAN INTERMODAL NETWORK, 1998</p> <p>For the EBRD and potential investors, Mr Winner identified an intermodal strategy for the Russian railways and private sector partners and developed plans for investment in several new intermodal terminals (St Petersburg and northeast of Moscow), routing improvements and organization structures for a proposed intermodal enterprise.</p>
◆	◆	◆	◆	◆	<p>AUSTRALIAN NATIONAL BUSINESS PLAN AND BID, 1997</p> <p>Working with RailAmerica and Mercer Management Consulting, Mr Winner helped identify the business opportunity available in the AN privatization; developed an assessment of potential partnership arrangements for a successful bid and helped RailAmerica join the Great Southern Railway consortium. He worked with Macquarie Bank, the consortium leader, in developing additional partnerships, including Goninans and Fluor -Daniel. Prepared a complex consortium bid for all rail properties of Australian National Railways separately and in combination. The work included due diligence review, development of traffic forecasts, operations and investment plans and financial forecast. Presented plan to financing institutions and prepared bid documents.</p>
	◆	◆	◆		<p>FERROVIA SUL ATLANTICO PROFIT MEASUREMENT SYSTEM, 1997</p> <p>Mr Sharp helped develop a system for calculating service costs and profitability for the railway's Brazilian freight business. The system provides costs and revenues by customer, commodity, equipment type and route, and is designed for use by marketing, strategic planning and operations planning professionals.</p>

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◆	◆	◆	◆	◆	<p>RESTRUCTURING ARGENTINA RAILWAYS, 1996</p> <p>Working with a Booz Allen Hamilton and World Bank team, Mr Winner directed a project to assist the Government of Argentina in restructuring and privatizing the national rail system with country-wide reorganization, analysis of alternative privatization methods, formation of a national-level transportation oversight office, development of regulatory reform mechanisms, and evaluation of the likely success of various restructuring alternatives. After successful concessioning, Government support of railway operations in Argentina declined from about US\$1 billion in 1990 to less than US\$50 million currently.</p>
◆	◆	◆	◆	◆	<p>RESTRUCTURING OF RAILWAYS OF ESTONIA, LATVIA, AND LITHUANIA, 1995</p> <p>For EBRD, Mr Thompson reviewed operations and practices of the Baltic railways and recommended restructuring and investment plans. The work included a review of government regulation and recommendations on changes in transport regulatory environment. It led to a series of projects financed by EBRD for Estonian freight operations and the first privatization of a CIS railway.</p>
◆	◆	◆	◆		<p>CSX TRANSPORTATION</p> <p>Working with Mercer Management Consulting, Mr Winner directed a long run program to improve CSX Transportation service reliability and reduce costs. The work included process reengineering in operations management, service design, equipment management functions, as well as the development of new organization structures and strategies. The program established that service reliability was associated with low operating costs and improved equipment utilization. The Service Reliability Project developed and implemented improved practices in crew and locomotive management and established the service lane concept of operations management at CSX. CSX experienced reduced costs, improved service reliability, and improved equipment utilization.</p>
◆	◆	◆	◆	◆	<p>RAIL SECTOR SURVEY: RUSSIA, KAZAKHSTAN, BELARUS AND UKRAINE, 1993</p> <p>Working with Booz Allen Hamilton, Travers Morgan, and a large team of rail industry experts, Messers Winner, Thompson, and Harral conducted this landmark study for the European Bank for Reconstruction and Development (EBRD). It reported on the first hard study of the rail system of the former Soviet Union just as it was breaking up. The objectives were to identify investment candidates for EBRD and other western lenders and to develop a path for railway reform that would introduce market economics and private capital to these rail systems, the largest in the world.</p>

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◆	◆	◆	◆	◆	<p>NEW ZEALAND RAILWAY REFORM AND RESTRUCTURING, 1992</p> <p>Working with Booz Allen Hamilton, Mr Winner assisted the board of directors of New Zealand Railway, a state owned enterprise at the time, in the development and implementation of a railway reorganization and restructuring strategy. The railway was ultimately sold to private investors.</p>
◆	◆	◆	◆	◆	<p>RESTRUCTURING STATE RAILWAY AUTHORITY OF NEW SOUTH WALES, 1992</p> <p>Working with the Booz Allen Hamilton, Mercer Management Consulting, the Managing Director of SRA, and the government of the State of New South Wales, Mr Winner helped develop a new business strategy and plan introducing separation of freight and passenger services from investment and maintenance of the infrastructure. Implementation saw formation of several different business units. One of those, FreightCorp, the freight operating system, was eventually privatized.</p>
◆	◆	◆	◆	◆	<p>FORMATION OF NATIONAL RAIL CORPORATION, 1992</p> <p>Mr Winner worked with a taskforce composed of consulting firms, including Booz Allen Hamilton and Travers Morgan, and representatives of Australia's railways and government and union officials to develop the basis for formation of National Rail Corporation, a nationwide intermodal and interstate freight operator in Australia. NRC was formed to reduce state railway operating losses from interstate traffic, introduce new, lower cost rail operating methods to Australia's railroads, and attract new freight traffic to rail throughout Australia. NRC was formed and has been successful in introducing new working methods, lowering operating costs and eliminating interstate freight losses for state railroads. It was sold to private sector interests and is a vibrant part of the freight transport sector in Australia.</p>

CVs FOR HWTSK PRINCIPALS AND SENIOR CONSULTANTS



CLELL HARRAL

Mr. Harral is a founder and principal of Harral Winner Thompson Sharp Klein, Inc. He has over 30 years of experience in transportation, banking, and structured finance. Mr. Harral's particular expertise is in the economics and finance of public infrastructure in the transportation and telecommunications sectors.

- In 2010 the World Bank, following extensive pre-investment studies, requested Mr Harral to lead an independent economic re-evaluation of the proposed \$2.2 billion Padma Bridge construction in Bangladesh to improve the access of Dhaka and extend its economic hinterland.
- In 2009-2011 Mr Harral served as project manager for a team of engineers, economists, financial analysts, and lawyers assisting Australian-AID (INDII) with the restructuring of Indonesian National Railways and subsequently several local Special Railways in Java and Sumatra.
- Previously, over a career of 22 years with the World Bank, Mr. Harral served successively as chief of transport research, highways adviser, policy adviser, principal transport economist for the Asia region, and lead manager for the China Transport Program. For 17 years he directed the international research program that developed and validated the Highway Development and Maintenance Standards Model (through HDM-III). He was a member of the Bank's first economic mission to China in 1980, and subsequently designed the study program, including the Coal Transport Study and the Railway Investment Priorities Study, that defined the Bank's strategy in China transport, while also managing \$1.5 billion in lending for railways, highways, and ports there.
- When the USSR applied for membership in the Bretton Woods Institutions in 1990, Mr. Harral was appointed to lead the transport team task force for the Joint Study of the Soviet Economy.
- In 1991, he was chosen to lead the transportation sector practice of the newly-established European Bank for Reconstruction and Development (EBRD), where he developed a major program of public and private finance for rail, water, road, and air transport, in what are now 25 countries of the former Soviet Union and Eastern Europe. He emphasized EBRD's privatization role and reduced dependence on state finance by limited recourse project finance and equity investment in private-public partnerships.

As a consultant since 1996, Mr. Harral has provided guidance and support to the EBRD, Asian Development Bank, the World Bank and IFC, and to their clients for project identification and appraisal, transport policy development, and restructuring of state owned transport enterprises.

- In 1998-1999 he served as Financial Adviser to the Ministers of Transport of Albania, Bulgaria, FYR Macedonia, & Romania supporting the South Balkans Development Initiative of the US Trade Development Agency. This encompassed the economic & financial evaluation and recommended financial structuring for USD 2.6 billion in proposed railway, highway, and port developments.
- In 2001-2002, he conducted comprehensive surveys of the current status and likely future of the railways sector and the highways sector in Asia to identify key issues and best practices and counsel the Asian Development Bank on its future role in the transport sector.
- In 2003, Mr. Harral evaluated the efficiency of the road transport industry in India for the World Bank. Subsequently the Bank contracted him to extend that work to a comparative study of the development of road and rail transport in India and China over recent decades with the objective to help transfer successful development models between the two countries.
- While a Visiting Scholar at the Harvard University Institute for International Development, he researched and drafted a book manuscript on restructuring of transport in the Soviet Union—subsequently published jointly with John Strong, John Meyer, and Graham Smith as *Moving to Market: Restructuring Transport in the Former Soviet Union* (Harvard University Press, 1996). He has authored or co-authored many other books and publications on planning, organization, and management of infrastructure and market transition in socialist economies. He holds a Ph.D. in economics from the University of Rochester where he worked with Nobel Prize winner Robert Fogel on the classic study *Railroads and American Economic Growth*.

JOHN H. WINNER

Mr Winner is a founder and principal of HARRAL WINNER THOMPSON SHARP KLEIN, INC. In more than 30 years in the transportation industry, he has worked with both state and private railways, shippers, suppliers, investors, governments, and financial institutions on transport policy, deregulation, restructuring, privatization, efficiency improvement, and strategy development. Over this period, Mr Winner has led many projects and due diligence studies for financial institutions and private investors in the rail sector worldwide.

- Working with other HWTSK team members and the Government of Indonesia, Mr Winner helped prepare the Indonesian Railway Master Plan. His work included review and analysis of freight traffic, inspection of infrastructure, workshops, and rolling stock, and the development of recommendations for future investments in the railway network in Indonesia. An outgrowth of this Master Plan effort was another project to spur the introduction of Special Railways (mineral railways or railways that carry particular types of traffic) by private investors. In this series of projects, Mr Winner worked with other HWTSK team members to review the legal status of Special Railways, analyze various project structures, and develop recommendations that would permit increased private investment in the Indonesian rail sector.
- For a number of private clients, Mr Winner helped develop financing for some \$25 billion of railway rolling stock, infrastructure, and maintenance equipment in a number of transactions that included Sound Transit in Seattle, RATP in Paris, TGV equipment for SNCF and EuroStar, the Berlin Metro, rolling stock for Stockholm commuter services, and freight equipment in Russia, Ukraine, Kazakhstan, and Pakistan.
- Mr Winner is currently serving as the Independent Lenders' Engineer for a group of lenders that includes development banks, regional investment banks, and local banks who provided funding for the rehabilitation of the Rift Valley Railway in Kenya and Uganda. In this assignment, Mr Winner has reviewed traffic prospects for the railway, developed forecasts of future traffic, and reviewed the investment and rehabilitation plans for the railway.
- Mr Winner was the project manager for the HWTSK assignment as Technical Advisor to a group of investment banks who were funding the development of a new mineral railway in Mongolia. The investment banks included the Asian Development Bank (lead banker in the consortium), the International Finance Corporation, and the European Bank for Reconstruction and Development. The mineral railway was a 230 kilometer special purpose railway extending from Tavan Tolgoi to the Mongolian border with China.
- For the World Bank, Mr Winner provided operations, investment, and terminal advice for a new railway line planned through Kyrgyzstan. The planned line would connect China Railway with the Uzbek Railway and traverses some of Kyrgyzstan's most difficult and most mountainous territory. The World Bank team advised the government of Kyrgyzstan in all aspects of the proposed project, including engineering and operational issues, and financing arrangements.
- Mr Winner has directed several projects in India. He conducted a case study for the World Bank which looked into the financial turnaround of the Indian Railway in the early 2000s. He also wrote specifications for the Dedicated Freight Corridors in India and currently serves on the International Advisory Board of the Dedicated Freight Corridor Corporation of India.

Mr Winner was a contributing editor for *Progressive Railroading* magazine, in which his monthly column, Smart Managing, was published for over ten years. He was vice president at Mercer Management Consulting and director of the rail consulting practice at Booz Allen Hamilton. Prior to entering the consulting business, he worked for the L&N and CSX railroads in the US. Mr Winner has a Bachelor of Science degree in Civil Engineering from Carnegie-Mellon University.

W. H. THOMPSON

Mr Thompson is a founder and principal of HARRAL WINNER THOMPSON SHARP KLEIN, INC. He has worked in the rail industry for 45 years, specializing in railway and intermodal operations and investment strategy. He has been a visionary railroader and an innovative operations manager.

- Mr Thompson founded and was chief executive officer of ACI Systems, Inc. The company developed the concept and design for computer based automatic rail car identification systems. ACI produced labels, scanners, and information systems for tracking and managing the movements of rolling stock. The company's visionary labeling systems presaged the movement to equipment tagging and tracking still being implemented by rail equipment owners worldwide.
- During his railway management career, Mr Thompson served 22 years in divisional and system operations, industrial engineering, and corporate strategy positions with Louisville & Nashville Railroad and the Norfolk & Western Railway. While at L&N, he sponsored and installed the first real-time telecommunications based equipment tracking computer system on a North American railway – predecessor to the operations management systems now used throughout the world. The system permitted significant reductions in clerical staff and substantially improved equipment utilization.
- For over ten years, Mr Thompson served as senior vice president and COO of TrailerTrain (TTX), the largest railway equipment leasing company in the world. His responsibilities included marketing, fleet management, purchasing, materials management, and business planning. During his tenure, TTX developed the world's largest fleet of intermodal rolling stock was the first to invest in articulated spline cars and double stack equipment.
- Working with development banks, railways, and governments, Mr Thompson helped initiate intermodal and container services in South Korea, Thailand, and China, among other countries. He has been a champion of intermodal/containerized rail/truck movement and has consulted widely on the establishment of intermodal services.
- Mr Thompson has undertaken several intermodal investigations in Mexico, including a feasibility analysis for Hyundai Corporation of an intermodal project entailing construction of a railway between Tijuana and Tecate to the Pacific Ocean port of Ensenada. He also conducted an evaluation of railway connections at the port of Veracruz, recommending modifications to railway operations and infrastructure near Veracruz to enhance export freight and container traffic growth.
- Mr Thompson international consulting work began in 1975 when used vacation time to serve as senior railway advisor for the World Bank and, later, the European Development Bank and the EBRD. Since then, he has completed rail and intermodal assignments in the Baltic States, Belarus, Brazil, Cameroon, China, Egypt, India, Israel, Kazakhstan, Malaysia, Mexico, Myanmar, Nepal, Pakistan, Russia, South Korea, Sri Lanka, Taiwan, Thailand, and Ukraine.
- He was vice president and general manager of the Illinois Central Railway. Mr Thompson returned the railroad to profitability by substantially reducing costs. He introduced new work practices and installed computer systems that permitted 25% reduction in staff. Mr Thompson developed an attrition program that employees and unions considered fair and permitted a substantial reduction in terminal and branch line operations to improve efficiency.
- Mr Thompson served as a member of the board of directors of ABCRail, NACO, and Trinity Industries, three separate rail equipment supply companies.

In addition to his transport activities, Mr Thompson serves as Chairman of the Coronado Hospital Foundation Board of Directors. He has a BA in transportation from the University of Tennessee, and an MBA from Northwestern University.

JONATHAN H. KLEIN

Mr Klein is a managing director of HARRAL WINNER THOMPSON SHARP KLEIN, INC. He has more than 30 years experience in railroad management and rolling stock maintenance, particularly in restructuring and managing rolling stock and shops and in financial systems used on railways.

- Mr Klein has served as rail industry expert on service-lease financing transactions with a total value of more than \$6 billion. The equipment includes locomotives, rapid transit equipment, trams, passenger coaches, and high speed train sets including TGV Duplex and EuroStar equipment.
- For the Alstom-Bombardier Consortium that supplied Amtrak with the Acela maintenance, Mr Klein created the complete General Ledger and Cost Center codes for the enterprise's chart of accounts and new software.
- For Management Audit Services Division of the LAC MTA, Mr Klein drafted a new chart of accounts to provide visibility on maintenance material costs.
- For the Detroit Transportation Corporation, Mr Klein developed the formal revenue accounting software and field procedures to control and account for cash revenues.
- For the Chicago commuter railroad, Metra, provided financial oversight of a contractor's new railroad car factory as a contractor to Ernst & Young for four years. Disqualified approximately \$30 million in M-K claims to-date performing audits of accounting systems and manufacturing processes.
- While Chief Mechanical Officer at Amtrak, Mr Klein reformed the cost reporting and accounting procedures for a \$700 million maintenance organization. He personally drafted the new Chart of Accounts used to manage over US\$300 million in material purchases, greatly improving the cost-effectiveness of the purchases. Although Mr Klein greatly increased the overhaul and routine maintenance programs at Amtrak, he reduced the annual cost of rolling stock programs by at least US\$70 million a year.
- For a privatized freight operator in Argentina, Mr Klein analyzed the maintenance practices and management of the locomotive department and helped develop specific changes needed in inventory management, maintenance procedures, and budgeting to reduce cost and improve efficiency. He also made longer-term recommendations for improving rolling stock investments and maintenance practices.
- In Bolivia, he reviewed the investment potential of freight railway operations of ENFE for a consortium of investors. Assessed the costs to rebuild the locomotives, shops, and cars, and developed operating budgets and capital renewal budgets.
- As Deputy Treasurer, Southeastern Pennsylvania Transportation Authority (SEPTA), Mr Klein was responsible for budgeting processes, and then for the processes to account for 1/4 billion US dollars in cash yearly.

Mr Klein holds a BA in Economics from the University of Chicago and an MBA from the Harvard University Graduate School of Business Administration. He has published several scholarly papers on rail equipment economics.

JEREMY DREW

He is a principal and Managing Director, Europe, of HARRAL WINNER THOMPSON SHARP KLEIN, INC. specializing transport economics, infrastructure pricing and market analysis. Mr Drew has 25 years of experience in rail industry consulting. He has extensive experience in economic analysis and in providing regulation and privatization advice to railways in both developed and developing countries. He works extensively in the UK but also has rail experience in the United States, China, Russia, Ukraine, Kazakhstan, Mongolia, India, Greece, Slovakia, Hungary, Nigeria, South Africa, Uganda, and Kenya.

- Mr Drew was recently appointed as an independent Board Member at Kazakh National Railways (KTZ).
- Working with other HWTSK team members, Mr Drew has carried out for the European Bank for Reconstruction and Development (EBRD) four major reviews of rail freight access charges in Russia to assess whether they discriminate against traffic carried to land borders, particularly to the Baltic States. Assessed compliance with Russia's commitments to the World Trade Organisation.
- He has analysed and prepared a report on infrastructure access charges in Romania and their compliance with European Union legislation, as part of a project with the European Bank for Reconstruction and Development (EBRD).
- Led Mongolian team reviewing relevant international rail experience in access arrangements and track access charges. Reviewed approaches in various European countries, North America, Australia and Russia. Developed a system of charges for Mongolia that would encourage private development of infrastructure. The report has been published by the Asian Development Bank.
- Member of team advising the Transport Research Board (TRB) in the US on the funding and financing of rail in the United States. Reviewed and analysed models and experience in Europe, identified and developed alternative funding, financing and revenue generating mechanisms, assessed their feasibility in the US and how they should be implemented.
- Rail economist/ technical adviser in the transaction team for the Greek Government on the privatisation of the railways. Co-ordinated writing of the Information Memorandum.
- He has served as senior economic adviser at the Community of European Railways, a body that represents the interests of all railways in Europe, focusing particularly on European policy and regulatory issues including track access charges and technical regulation.
- His experience in the UK railway sectors includes a number of consulting assignments for British Rail, 1½ years at the UK office of the Rail Regulator working on track access regimes during privatization, and advice to train operating companies on demand, infrastructure access and performance issues. For the UK Government, he has reviewed the operational plans submitted by bidders for a major rail passenger franchise and provided advice on franchise policy.

Mr. Drew holds a BA in Engineering and Economics from the University of Oxford, an MA in Transport Economics from the University of Leeds, a Diploma in Accounting and Finance from ACCA and an MSc in the Economics of Regulation and Competition from City University, London. He has published many papers on rail economics.

MARTIN BLAIKLOCK

Mr Blaiklock is a senior financial consultant to HARRAL WINNER THOMPSON SHARP KLEIN, INC. A specialist in the structuring of limited recourse project finance, Mr Blaiklock has over 25 years of professional experience in investment banking, commercial lending, international trade and project finance. Over the past ten years, Mr Blaiklock has been an independent financial consultant working on a series of assignments involving private finance of airports, railways, roads, ports, and power plants in Europe, Africa, Asia, and Latin America.

- Mr Blaiklock led the Project Finance Group of the European Bank for Reconstruction and Development (EBRD) when it was first established in 1991. In that capacity he pioneered the use of limited recourse financing for infrastructure projects in the former Eastern bloc.
- As Director Power & Energy Utilities at EBRD, Mr Blaiklock was chairman of the EBRD/EU Committee evaluating the large (and controversial) proposal presented to the Bank for the US\$800 million upgrading and rehabilitation of Slovakia's Mochovce Nuclear Power Station.
- Since establishing his consultancy in 1995, Mr Blaiklock's principal projects have involved structuring of private finance for:
 - Venezuela: La Vueltoza Hydroelectric Scheme (IPP) (1998-99)
 - Russia: Kamchatka Geothermal Power Plant (2001)
 - Bulgaria: Sofia International and Bourgas Airports (1996-1997)
 - South Africa: Coega Port (1997-99) & Sri Lanka:: Colombo South Container Port (2002-3)
 - Indonesia: Ministry of Transport, private participation and related regulatory regimes in ports, railways, roads, and airports (1996-98)
 - UK: Biodiesel Project Financing (2006/7)
 - UK & USA: Evaluations of the future use of clean coal technologies
 - Slovakia: D1 Motorway (PPP) (2005/7) & Latvia: PPP Motorway (2007)

Mr Blaiklock also has extensive experience with funding of urban rail systems. From 1976, he served for 3 ½ years as Resident Financial Advisor to the Metro de Caracas, Venezuela. In 1984 he undertook the financial feasibility studies for Manchester Metrolink, UK, and in 1989 evaluated BOT proposals for the Ankara Metro, Turkey, and Lisbon Metro, Portugal. In 1997, he advised three UK light rail and busway projects on private finance alternatives. He was Expert Witness for the UK Parliamentary Inquiry into the London Underground PPP (2002).

Prior to joining EBRD, Mr Blaiklock worked for the Hongkong and Shanghai Banking Corporation (HSBC) as Director of Trade Finance (1985-1991). In that capacity, he was responsible for developing project and export finance opportunities in Europe, Southeast Asia, Middle East, and Latin America. Mr Blaiklock began his project finance career with Kleinwort Benson (1973-1985).

Mr Blaiklock holds an MA degree from Oxford University and an MBA from the University of Manchester Business School. He regularly gives seminars on project finance and PPP's to governments (e.g. Romania, Uganda, Ghana, Kenya), commercial banks, corporations and academic institutions.

ANDREI ALEXANDROVICH EVDOKIMOV

Mr Andrei Evdokimov, a Senior Consultant to HWTSK, has 20 years experience working in the evolving economy of the Russian Federation and the former Soviet Union on a variety of transport and business related issues. A trained economic geographer, Mr Evdokimov also has an MBA, and considerable experience working as a consultant, advisor, entrepreneur, and as a representative of western companies with interests in the Russian Federation and other newly independent states.

- Mr Evdokimov served as National Sales Leader for GE Rail Services activities in Russia and CIS countries from 2006 to 2009. During this time, he helped develop GE's capabilities in Russia and other CIS countries and prepared GE Rail Services for entry into the Russian rail freight wagon leasing business.
- Starting in January, 2001, Mr Evdokimov served as president and developer of a new venture in Moscow, SuperJob, a recruitment and employment agency. In this capacity, he developed the business model and strategy for the firm, wrote the business plan, hired the initial staff (a team of twelve professional recruiters), developed the marketing strategy and supervised sales efforts and product design. By the end of 2001 the venture had a backlog of more than \$200,000.
- While at Business School, Mr Evdokimov worked with Perkins Engines, a Caterpillar company, in Peterborough, UK. He developed an electronic sales tool describing Perkins Engines and comparing their benefits relative to engines made by competitors.
- Mr Evdokimov served as international representative for NACO Inc, the worlds largest foundry group and a supplier of railway equipment and oil and gas valves. Mr Evdokimov represented NACO and its successor company, ABC-NACO for six years, earning the company its first exposure and sales in the former Soviet Union. He was responsible for finding joint venture partners, visiting plants and making initial due diligence analyses. He helped the company find competitive partners in Russia to source \$7-million in castings and fabricated components from Russia.
- He also served as consultant and development representative for Caterpillar Overseas, SA, in Moscow. Here he conducted business development activities, including market strategy development and market research for a new engine assembly plant in Russia. He helped Caterpillar conduct the due diligence necessary for joint venture partnerships with the largest Russian and Ukrainian agricultural, locomotive, and oil & gas industry equipment manufacturers.
- Mr Evdokimov served as consultant and interpreter in a number of assignments for the European Bank for Reconstruction and Development (EBRD) starting with its landmark Rail Sector Survey in 1992. He helped EBRD conduct the field preparations for the first EBRD loans to the Rail Sector, in the amount of \$250-million. His work with the EBRD has extended over several transport modes, including the Federal Civil Aviation Authority, Vostochny port, intermodal terminals around Moscow, St Petersburg, and Vostochny, telecommunications projects, and highway developments.
- As a part of his work with international development banks, Mr Evdokimov has worked with and for many of the world's largest consulting groups including Booz, Allen & Hamilton, Mercer Management Consulting, HWTSK, Travers-Morgan, and many others.

Mr Evdokimov graduated from Moscow State University's with a degree in Economic Geography. He graduated from the American Institute of Business and Economics (AIBEc) in Moscow, and earned an MBA from the London Business School, Europe's leading business school. He is fluent in Russian, English and French and has a working knowledge of German.

DAVID J. HUGHES

Mr. Hughes, a Senior Consultant to Harral Winner Thompson Sharp Klein, Inc., has 30 years of U.S. and international experience in freight and passenger railroad operations, maintenance and financial management and as a senior executive in railway supply industry. He specializes in strategies for improved railroad operations and maintenance and capital investment planning. He served as the senior executive responsible for infrastructure for a U.S. Class I freight railroad and for the National Railroad Passenger Corporation (Amtrak), which operates the only high speed passenger train service in North America. Mr. Hughes also recently served as interim President and CEO of Amtrak.

Mr. Hughes experience includes international assignments in, Mexico, Chile, Columbia, Venezuela, Peru, Chile, Argentina, Brazil, Uruguay, South Africa, Kenya, Kazakhstan, Poland, Czechoslovakia, Hungary, Indonesia, Alaska and the continental U.S. Mr. Hughes international consulting assignments include:

- For Spoornet, in South Africa he helped develop a strategic plan including a financial model to evaluate alternatives.
- For Metrorail in South Africa, Mr. Hughes participated in training the management staff in Johannesburg, Pretoria, Cape Town, Port Elizabeth and Durban in efficient methods of railroad operation, including specific strategies for cost reduction.
- In Kazakhstan, following the dissolution of the Soviet Union, Mr. Hughes reviewed maintenance practices and recommend dramatic changes in maintenance strategies that were adopted by the Kazakh railways. The retooling was financed by the European Bank for Reconstruction and Development.
- Assessing the public policy issues related to financing the maintenance of transportation infrastructure and harmonizing the financial relationships between rail and other transport modes for the Czechoslovakian Ministry of Transport on restructuring the Czech and Slovak Federal Republic State Railways (CSD).
- Worked with railroad investors and management to review operating practices and develop capital spending plans for newly privatized railroads in Brazil, Argentina and Columbia.
- Assisted the state owned railway of Uruguay in evaluating privatization options and developing a multi-year strategy.

Mr. Hughes also has a successful career in private industry. Over a three year period as chief engineer of Amtrak, Mr. Hughes was responsible for reducing train delays due to signal failures, track defects and traction power by over 40% and raising track speeds that reduced run times by 12 minutes between New York and Washington at nominal cost. At the same time, personal injuries to employees were cut in half, operating expenses decreased 3% per year and capital spending increased 80% with 6% fewer employees. As chief engineer of a Class I U.S. railroad, Mr. Hughes was responsible for planning the reconstruction of core main line. The project included evaluating the costs and benefits of realigning curves, adding a second main track in some locations and eliminating it in others. As president of Pandrol, Inc. and Speno Rail Services, Mr. Hughes worked with railroads in Turkey, England, Italy, Brazil, Venezuela, South Africa, Mexico, Germany, France, Canada, and the United States (including Alaska). He helped these railroads develop high-performance track components and maintenance systems for both heavy haul and high-speed passenger applications. Mr. Hughes served as president of the Bangor & Aroostock Railroad, a regional railroad in the northeastern United States and vice president of engineering at the Boston & Maine Railroad, where he was responsible for all track structures and signal systems maintenance.

Mr. Hughes received a B.S. in civil engineering from the University of Texas at El Paso and an M.B.A. from the Harvard University Graduate School of Business Administration.

TYPICAL TERMS AND CONDITIONS

1. Confidentiality: We will hold confidential all information obtained from you and so identified, not otherwise previously known by us or in the public domain, unless such information comes into the public domain through no fault of ours, or is furnished to us by a third party who is under no obligation to keep such information confidential.
2. Inventions: Unless otherwise expressly agreed, all right, title and interest in and to any ideas, innovations or inventions conceived or developed by us in the course of performing this project shall be the property of (client). We will assist you in securing protection for any such property rights and we will execute any applications or documents required to secure such protection. However, all the costs incurred by us in securing such protection, including our fees for professional time and expenses, shall be paid by you.
3. Best Efforts: We will undertake this assignment on a best efforts basis. Our findings, recommendations, and deliverables will reflect our best professional judgment based on the information available to us. In no event shall our liability exceed the amount which is paid to us for our services.
4. Independent Consultant: Our services will be rendered as an independent consultant and not as an employee, agent, partner or joint venture. Differences of opinion relative to our work shall not serve as the basis for rejection of our reports and findings or the withholding of any payments otherwise due.
5. Responsibility: Except where due solely to our negligence, you agree to hold us harmless from any and all liability, loss, damage, or expense, including attorney's fees, we may suffer (other than damage to our tangible properties or injuries to our employees occurring during the course of our work) as a result of claims, demands, costs or judgments arising out of our performance on this assignment.
6. Invoices: It is our practice to bill clients on a monthly basis at the beginning of each month for services to be rendered and expenses to be incurred during that month. We reconcile estimated bills and actual charges at the completion of each assignment. Our bills are payable within fifteen days of the billing date.
7. Termination: The services to be provided may be terminated by either party at any time upon thirty days advance written notice. Upon such termination, we will deliver all work products then completed, and shall be paid for all professional fees and expenses incurred in performance of the services up to the time of termination.
8. Excusable Delays: Neither we nor you shall be liable or deemed to have breached any agreement for (a) any delays or failure in performance, or nonperformance, or for (b) interruption of services, if any such delay, failure or interruption results directly or indirectly from causes beyond the reasonable control of either you or ourselves. Such causes include, but are not limited to, adverse weather conditions, strikes, riots, epidemics, war, governmental regulations subsequently imposed, fire, transportation or communication delays, acts of God or the public enemy, machine or equipment failures, earthquakes, or other natural disaster.