

Chris Castles

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Qualifications: BA (Econ) Hons. Manchester University, 1968

Job History

1972 to 2002	PricewaterhouseCoopers Partner in-charge of the Transport Strategy and Economics practice
1969-1972	Freeman Fox, Wilbur Smith Associates , transport consultants

Key Experience

Chris Castles is an independent transport economist. Before retiring from the PricewaterhouseCoopers (PwC) in 2002, he spent 30 years developing and leading the firm's transport consultancy practice and was partner-in-charge of the firm's international transport strategy and economics practice from 1989 to 2002.

Chris has extensive international experience in transport policy, economics and strategy across the transport sector covering rail, air, marine and road transport, gained while working on numerous projects across Europe, Africa and Asia. His main areas of expertise include transport policy development, economic and financial analysis, project appraisal, business planning, industry restructuring, organisation and management, commercialisation, privatisation, regulation, pricing, market analysis and demand forecasting. He has worked in a wide range of roles including directing, leading, managing and executing major projects, mainly in the public sector and recently privatised organisations.

He has particular expertise in the rail and air transport industries. He has worked with some 20 different railways across the world on a wide range of issues including railway restructuring, commercialisation, privatisation, infrastructure access, regulation, pricing and subsidy policy, performance and investment incentive regimes, as well as business planning, market analysis and appraisal of major investment projects. In air transport, he has worked with policy makers, airports, air traffic control operators and airlines on competition policy privatisation and restructuring, business analysis, pricing, investment and performance improvement.

Project experience

As an independent consultant

National Transport Funding Policy Study, Kenya: Team leader on a study to develop a funding policy for national surface transport infrastructure in Kenya. The work involved collating the expenditure plans for transport infrastructure and their funding requirements, reviewing current and potential of funding sources and the development of a financial model to test a range of options and scenarios to examine the ability to fund the planned expenditure programme. A particular focus for the work was to review the potential for introducing the tolling of roads, including identifying the extent and revenue potential of tollable roads, taking into account the best method of collecting tolls. Developed a national policy and strategy based on the coordination of the work of a number of advisers. Finally, a funding plan and policy recommendations were prepared to bring expenditure plans and funding into balance.

Review of the economic case for a High Speed Rail Line, UK: Carried out an independent review of the Economic Case presented by the Government to justify the construction of a major £33bn new high speed rail line in the UK. The review was amongst the first to expose the flaws in the methodology used for the evaluation with respect to the definition of the base case, the demand forecasts, the value of time savings, the treatment of risk, pricing policy and a number of other weaknesses in the economic and business case.

Advice on Improving the Functioning of Air Transport Regulation, South Africa: Advised a joint Project Group comprising representatives of ACSA, ATNS, the airlines, the Regulator and the Department of Transport on restoring the system of economic regulation after it broke down following a major dispute over the funding of a very large investment programme. Our work addressed a number of issues including, the valuation and rolling forward of the RAB, the treatment of assets disposals and investment in non regulated businesses, prefunding of investment, the proper application of the 'correction factor', the 'K' factor and the 'X' factor and the improvement of the 'constructive engagement' process between stakeholders.

Ports regulation, South Africa (2007): Advised Transnet, National Ports Authority in preparing for independent regulation under new legislation. Reviewed the legal basis for regulation and the policy environment. Reviewed the current tariffs structure in relation to economic principles for efficient pricing. Reviewed the long term investment requirements of the business and other cost drivers. Identified the issues arising with regard to the level and structure of prices within the current policy constraints of the business and highlighted a range of regulatory risks and requirements. Developed a strategy for regulation including proposals on organisational arrangements and information requirements.

Tazara private sector participation options study, Tanzania: responsible for the analysis of the condition and prospects for Tazara's business and developing the institutional and regulatory proposals for the asset holding entity and the regulator, taking into account the bi-national ownership of the business.

National Transport Policy review, Nigeria: Review and updating of Nigeria's national transport policy. The policy focused on the role of the private sector in rehabilitating transport infrastructure and the need to rebalance the system from dependence on road transport towards intermodal transport.

Traffic Potential on Nigeria Railways: Developed estimates of the freight traffic potential of Nigeria Railways for a potential public private partnership.

Airport business review, South Africa: Reviewed the traffic potential, operations, business prospects and investment needs of Kruger Airport and prepared revised assumptions for the financial model of the business.

Regulatory policy freight railways, South Africa: Developed proposals for how price regulation of the freight railway in South Africa could operate. This covered efficient pricing principles and how the potential conflicts between regulatory, policy and shareholder objectives within government could be resolved in practice. A process was defined showing how prices could be set to harmonise commercial and efficiency objectives, while allowing subsidy of specific services where justified.

Private sector participation freight railway, South Africa: Advised the Department of Public Enterprises on the institutional structure and regulatory requirements for enabling multiple competitive freight train operators and forms of public private partnership on South Africa's freight railway network. The work involved a review of international railway restructuring experience, focussing on vertical separation, and developing proposals for restructuring the freight railway.

Review of the economic appraisal of the Gautrain project, South Africa: Carried out a review for the PPP unit of the national Treasury of the economic appraisal of a proposed new passenger railway between Johannesburg and Pretoria. The methodology, assumptions and results of the demand forecasts were reviewed, together with the definition of the base case used for the appraisal and some of the key assumptions including the value of time, vehicle operating costs and the long term extrapolation of benefits.

Financing arrangements for a new road bridge, UK: Reviewed the implications and likely cost effectiveness of using Private Financing for the construction and operation of a new bridge across the Mersey river.

Rail Project Evaluation, Uzbekistan: Enterprise reform specialist on a post project evaluation for a programme of ADB funded assistance to the rail sector in Uzbekistan. Reviewed the effectiveness of a 10 year programme of technical assistance in for the restructuring and commercialisation of the railway and drew relevant lessons.

Japan railways review: Preparation of a report on the experience of railway reform in Japan. The report covered the motivation for reform, the decision-making process, the options evaluated, the experience since reform and the lessons learned.

With PricewaterhouseCoopers

RAIL TRANSPORT

Railtrack regulatory review: Partner in overall charge of a major programme of support to Railtrack for its periodic regulatory review. The work was carried out over a three year period and PwC's main responsibility was to provide policy advice and analytical support on the incentive framework for the industry covering access pricing, performance and possessions.

Railfreight subsidy policy, UK: Directed a study for the Department of Transport and the Strategic Rail Authority to evaluate and advise on the structuring of subsidy to the railfreight industry in the UK.

Eurotunnel restructuring: As a prelude to restructuring, led a major business review of Eurotunnel for its lending banks to analyse the causes of its failure to meet revenue projections and to evaluate future business prospects.

Eurotunnel performance monitoring: Partner responsible for a regular review of Eurotunnel's business performance on behalf of its banks. The work involved an annual review of the recent business performance and commercial and operating policies and practices of the Company, its 3 year plan, its budget and its 10 year investment plan. .

London Underground, regulation of performance: Led a review for London Underground's senior management of the means of regulating performance and investment under the government's proposed public/private partnership scheme.

London Underground, public/private partnership: As part of PwC's role as financial adviser for the implementation of the PPP, led a review of LUL's long term forecasts of traffic on the railway.

Swiss Transalpine tunnel project (NEAT) - financial review: Led a team which carried out a financial review of the £8 billion Swiss transalpine rail tunnels project for the Swiss government, which resulted in a review of the scope of the project to reduce its costs..

EC Directive 91/440 on open access to Railways: Technical director of a study to develop the principles, methods and practical arrangements for enabling competitive access to British Railways' network for international railway services.

Advice to Banks: Channel Tunnel Rail Link: Led the team advising the arranging banks for Eurorail's bid to privatise Eurostar and construct the Channel Tunnel Rail Link using private finance.

Advice to private finance bidders, Channel Tunnel Rail Link: Prior to the work for Eurorail's banks, led the business advisory team to the Green Arrow consortia of bidders for the operation of the Channel Tunnel rail services and construction of the Channel Tunnel Rail Link.

Channel Tunnel Rail Link: Directed the firm's advisory work to British Rail between 1988-1994 for a project to construct a new £3 billion high speed rail link to connect London to the Channel Tunnel.

Swedish Railways, Competition within the railways: Provided expert advice to the Government Committee on increased competition within the railway sector including access mechanisms for capacity allocation under

competitive conditions and the institutional arrangement for enabling competitive access to specialist facilities and resources.

Slovakia Railways, restructuring: Advised on the institutional arrangements required for the restructuring of Slovakia Railways (ZSR).

Network SouthEast Strategic review: Director responsible for a major strategic review of British Railways' Network SouthEast (NSE) business.

British Railways - Corporate Headquarters restructuring: Following earlier work recommending the restructuring of BR into decentralised business units under a small corporate headquarters, we were asked to advise the Board on the appropriate role and method of operation of the new corporate office.

British Rail - Privatisation: Led the team engaged on management restructuring of British Rail as part of Coopers & Lybrand's work in advising on privatisation of the railways. We evaluated the implications of various options for radical restructuring and break-up of the railways.

British Rail – Management of customer service staff: Director responsible for a study of the organisation and personnel policies for British Railway's customer service staff.

British Railways, Road service vehicle management study: Directed a comprehensive study of the organisation and management of British Railway's road service fleet provision and utilisation.

Four European national railways: Directed a study developing a strategy for the European railways to develop rail services for the automotive products through the Channel Tunnel.

British Railways Freightliners: Directed a study to review the organisation status of Freightliner. Options for privatisation, retaining its present subsidiary company status or absorbing it into British Railway's sector management structure were evaluated.

Track renewal investment case, London Underground: Directed a study to develop the investment case for the renewal and upgrading of track on London Underground's network.

London Underground, management information strategy: Directed a major study to develop a comprehensive management information and system strategy for London Underground (LUL).

New Zealand Railways: Responsible for a review of the financial impact of a major investment project and recommending future action, in the light of fundamental changes in the strategic direction and market prospects of the railway.

Corporate plan review, Northern Ireland Railways: Project leader on a study to review the 10 year Corporate Plan of Northern Ireland Railways.

Tanzania Railways Corporation - Development Plan: Director of a major study to prepare a strategy and development plan for improving the performance of TRC.

Kenya Railways Corporate Plan: Project director for a joint team of consultants and staff from Kenya Railways preparing a five year Corporate Plan.

Kenya Railways management action programme: Project manager of a study to prepare a three year management action programme for the railways.

Kenya Railways motive power study: Manager of the economic and financial aspects of a study to plan Kenya Railway's future motive power requirements.

Zambia Railways organisation study: Project leader on a study to review and make recommendations for improving the top level structure of Zambia Railways' organisation

Zambia Railways manpower study: Supervised the implementation phase of a study to introduce improved manpower information and planning systems into the railways.

AIR TRANSPORT

Aeroporti di Roma, Strategic management review: Led a strategic review of Rome airport involving analysis of the performance, structure, management resources and business processes of the organisation.

Transatlantic airline alliances: Directed a study commissioned by the Association of European Airlines to carry out an economic analysis of transatlantic airline alliances.

Air Malta, Impact of EU accession: Directed a strategic review of the impact of Malta's accession to the European Union on Air Malta.

Luton airport privatisation: Advised the successful bidder and the consortium's lenders for the concession to develop and operate the airport.

Eurocontrol, Strategic ATM model: Partner responsible for a project to develop a macro strategic model to analyse long term air traffic management capacity enhancement measures.

Eurocontrol - Pricing of en route ATC services: Partner responsible for a study to evaluate options for the pricing of en route air traffic control services.

Airport slot allocation regulation, Europe: Directed a study of the application and effectiveness of the EC regulation on airport slot allocation.

Privatisation of air traffic control services, UK: Advised on regulatory aspects of the privatisation of the National Air Traffic Services (NATS) organisation in the UK.

Portuguese airports/ATC restructuring and privatisation: Advised ANA, the Portuguese airports/ATC authority, on restructuring, regulation and business analysis in preparation for the privatisation of the airports and the establishment of an ATC company and a regulatory authority

Aeroporti di Roma, Review of Master Plan: Directed a review of the ability of AdR to finance the investment programme to implement its Master Plan.

Aeroporti di Roma, Review of Ground Handling Operations: Directed an efficiency study of airport ground handling operations at Rome.

Prague Airport, Forecasts for financing a new terminal: Directed a study to develop forecasts of future airport traffic and revenue for a group of banks considering financing a new airport terminal.

Institutional and financing study for the new Bangkok Airport project: Directed a study of the institutional and financing arrangements for the development of the second Bangkok International Airport.

Aeroport de Paris, Planning and control processes: Advised on a study to review management information and control within ADP.

New Athens Airport - Private Sector Group: Led a team acting as business advisors to the successful bidders for the construction and operation of the new Athens Airport using private finance.

Olympic Airways - Business strategy: Directed a study to examine the strategic development of Olympic Airways to provide a basis for long run viability.

Aircraft acquisition, Cyprus Airways: Project leader on a review of the financial consequences of the proposed acquisition of new aircraft to replace the existing fleet of B707's.

Bangkok airport study, Thailand: Economist responsible for the financial and economic evaluation of alternative strategies for expanding the international airport capacity at Bangkok.

BAA regulatory review: Directed advice to airlines for submission to the Monopolies and Mergers Commission review on the regulatory arrangements for BAA.

British Airways, Heathrow Terminal 5: Advised BA on the economic impact of the construction of T5 to support their evidence to the Public Enquiry.

OTHER EXPERIENCE

Jordan Transport privatisation policy advice: Partner responsible for a long term programme of policy advice and technical assistance to the Jordanian government covering air transport, urban buses, railways and the port.

Transport user charges in Europe: Directed a review of European pricing practices for transport infrastructure which included an experts' seminar to discuss the issues.

Privatisation in the transport sector: Directed a review of experience in privatisation in transport in Thailand and the Philippines. Carried out seminars on the privatisation process in SE Asian countries.

European oil distribution strategy: Director on a study to develop a strategy for the primary distribution of oil products throughout Europe for one of the major oil companies.

Bus privatisation policy study: Team leader on a policy review of options for privatisation of the bus industry in urban areas of the UK.

Nationalised industry organisation review: Project leader on this study to review and make recommendations on the organisational arrangements for the management of the largest fleet of vehicles operated by any enterprise in Europe.

Port dredging/shipping service study, Northern Ireland: Supervision of the study team carrying out an analysis of the feasibility of dredging the entrance channel to the harbour in order to enable a Ro Ro ferry service to be established at the port.

National ports forecasts, Portugal: Directed a study to prepare forecasts of unit load traffic through Portuguese ports. A major component of the study was an analysis of the economics of direct LoLo and RoRo services compared with road and rail land transport routes across Europe.

Clydeport marketing study: Supervision of a study to examine the opportunities for improving the market prospects for Clydeport's facilities.

Shiprepair market review, UK: Carried out a survey of the market prospects for commercial shiprepair at Chatham Dockyard.

Gibraltar dockyard: Responsible for the review of market and revenue prospects for the proposed commercial dockyard in Gibraltar as part of a financial and economic feasibility study of the project.

Port area expansion study, Dover: Manager of this study to evaluate the Board's options for meeting growing congestion of freight vehicles within the port area.

Kuching port expansion study, Malaysia: Responsible for an analysis of the long term port development requirements for the Kuching region with a view to identifying a suitable site(s) for location additional port facilities in the future and reserving the land areas required.

Zambia coastal links transport study: Project leader on a major regional transport study of Zambia's trade route to the coast supervising the work of a team of eight economists, engineers and operations specialists.

Coastal ports study, Thailand: Deputy project leader responsible for the economic components of a major World Bank financed study of 22 coastal ports in Thailand.

Corby employment and industry study, UK: Project leader on this study of the employment problems of this UK town which was heavily dependant on a major steel works.

Hire cruising marketing study, Scotland: Supervision of a study to develop a commercial action plan to increase demand for boating holidays in the Great Glen.

Miri port study, Malaysia: Project economist on this study of the development of riverine port facilities in Sarawak.

Mina Qaboos port study, Oman: Supervision of the economic aspects of this study of the expansion of Oman's main port.

Short-Sea ferry feasibility study, UK: Supervision of a study to determine the feasibility of a new ferry service from the UK to the continent involving estimating the costs of operations on a variety of possible routes.

Maputo port container operations study, Mozambique: Port/shipping economist on this study of the management arrangements and operational requirements to expand container handling capacity at Maputo.

Railway/port routing study for coal, Mozambique: Supervising economist on this study to determine the best route for up to 10 million tonnes of coal exports.

Jurong port study, Singapore: Economist responsible for a review of the future expansion requirements of Jurong Port.

Port Louis through road study, Mauritius: Economist on this feasibility study for the construction of an urban through road in Port Louis.

Grain storage and milling study, Tanzania: Transport economist on this World Bank financed study responsible for estimates of grain transport costs and developing a model which analysed the monthly profile of regional grain storage demand and capacity requirements and identified the major transport constraints on the distribution of grain.

Damar Laut development study, Singapore: Carried out a study to investigate alternative uses for an island located just off-shore from Jurong Port.

Container port development study El Salvador: Economist responsible for the cost-benefit comparison of alternative container and break-bulk general cargo development options for Acajutla, El Salvador's principal port.

Kuching urban and regional Master Plan study: Transport economist responsible for an assessment of the regional planning implications of the long term development of the port and airport

South Thailand regional planning study: Member of a large multi-disciplinary team on this comprehensive regional planning study.

Port Kelang development study, Malaysia: Responsible for the cost-benefit component of this study commissioned by Port Kelang Authority.

Channel Tunnel studies: Responsible for a study of commodities which might be transported in large trainload consignments through the proposed Tunnel.

Prior to joining Coopers & Lybrand

Freeman Fox and Associates (1969 - 1972)

Worked on a range urban transport planning studies gaining experience in analytical planning techniques, including transport demand modelling and forecasting methods and economic evaluation of transport development schemes.

Taiwan railway electrification study: Transport economist on a major railway electrification feasibility study.