

BENJAMIN J CONDRY

Nationality: British Citizen

Year of Birth: 1975

Key Skills and Experience

- Currently Associate Director and Head of Railway Benchmarking at the Railway and Transport Strategy Centre, Imperial College London.
 - Fifteen years' experience within rail and public transport covering of a broad range areas including benchmarking, policy, management strategy, operational analysis, demand forecasting and modelling, economic appraisal, financial & revenue analysis and survey techniques.
 - Extensive knowledge and understanding of the rail and public transport industries in the UK, other European countries and internationally, at both a strategic and more detailed level.
 - Substantial experience of international benchmarking of world rail, metro and bus operators, including the analysis of factors influencing performance and the identification of best practice.
 - Comprehensive knowledge of key transport planning theories and their policy implications, including demand forecasting and service planning, particularly for railways, with a Masters degree in transport.
 - Expertise in demand forecasting theory and practice, including a comprehensive understanding of the rail Passenger Demand Forecasting Handbook (PDFH), with 3 years as Passenger Demand Forecasting Scheme Manager at ATOC.
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Education

MSc Transport Engineering and Operations

University of Newcastle upon Tyne – September 1999 to September 2000

MEng Civil Engineering (2.1 Honours)

University of Exeter – October 1994 to July 1998

ERASMUS Programme

Universität Stuttgart (Germany) – April to August 1997

Professional Experience - Summary

March 2012 to present: Railway and Transport Strategy Centre, Centre for Transport Studies, Imperial College London

Associate Director and Head of Railway Benchmarking from 2014; Project Manager for the ISBeRG international suburban rail benchmarking group from 2012 to present.

2007 to 2012: Association of Train Operating Companies (ATOC)

Passenger Demand Forecasting Scheme Manager from 2008 to 2012

2003 to 2007: Railway and Transport Strategy Centre, Centre for Transport Studies, Imperial College London

Senior Research Associate

2000 to 2003: Integrated Transport Division, Mott MacDonald

Rail Planner / Consultant

Professional Experience - Details

March 2012 to present: Imperial College London

Associate Director and Head of Railway Benchmarking, Railway and Transport Strategy Centre, Centre for Transport Studies

Project Manager for ISBeRG, the International Suburban Rail Benchmarking Group – Management of a benchmarking group of 15 major suburban railways from six continents, operating in and around cities including London, New York, Tokyo, Sydney, Cape Town and Munich. Liaising with senior management at each railway to develop and manage an annual work programme to provide strategic-focused process benchmarking on areas of common interest. Development of a unified Key Performance Indicator (KPI) system covering all aspects of suburban railways from finance, asset management and productivity, to capacity utilisation, operational performance and safety. Managing and undertaking research projects to identify best practices in areas of key priority to members.

Also involved in other rail and public transport related research projects within the Railway and Transport Strategy Centre, including the CoMET and Nova international metro benchmarking groups (examples below).

International Mainline Rail Benchmarking Group – Leading the establishment of a new international benchmarking group for mainline railway operators, including several national railways from medium-sized European countries and Australia. Starting in 2015, this is an on-going project to collect and compare performance indicators and identify transferable best practices in areas including train operations, station management, and customer service.

Community of Metros (CoMET and Nova) international benchmarking – Expert advisor for two successful benchmarking programmes serving 32 of the world's metros including London Underground, Hong Kong MTR, Paris RATP and New York City Transit. The programmes assist metros in identifying and implementing best practice through the application of benchmarking and evaluations of management processes. Provided expert guidance and review for a broad range of case studies on topics including demand and revenue, service planning, customer service and reliability.

Automated refunds to incentivise improved customer service (DfT) – Expert advisor on demand, revenue and economic appraisal, providing insight into the ticketing and compensation regime. Estimated the demand and revenue impacts of a range of options to provide automatic compensation to passengers affected by delays on the rail network. Assessed the effects of alternative compensation scenarios and their potential application to specific ticket products and formats.

Understanding Demand and Revenue (Community of Metros) – Key advisor on a study to investigate and understand the demand drivers affecting metro railways. Identified initiatives to increase primary revenue on metros and opportunities to increase demand and revenue at low marginal cost. Presented findings to a group of senior management from 15 of the world's largest metro systems.

PDFH v5.1 Expert Panel Peer Review (ATOC/PDFC) – Invited by ATOC to participate in a small panel of demand forecasting experts to provide constructive criticism of work carried out for the update, prior to its completion, including on how recent evidence should be reflected in PDFH v5.1. Reviewed draft versions of key chapters for the revised Handbook, including those on journey time, station facilities and reliability. Participated in workshop to agree changes for the revised version.

Automated refunds to incentivise improved customer service (DfT) – Expert advisor on demand, revenue and economic appraisal, providing insight into the ticketing and compensation regime. Estimated the demand and revenue impacts of a range of options to provide automatic compensation to passengers affected by delays on the rail network. Assessed the effects of alternative compensation scenarios and their potential application to specific ticket products and formats.

Valuing convenience in public transport (OECD) – Research for the OECD’s International Transport Forum on the measurement and valuation of convenience in public transport, and production of a paper, leading to publication of a report by OECD. Reviewed methods used by public transport operators and authorities to quantify and measure convenience, and how these could be used to inform policy decisions on the delivery of public transport services. Participated in a “Round Table” event to discuss and develop evidence with international experts.

May 2007 to February 2012: Association of Train Operating Companies (ATOC)

Nov. 2008 to Feb. 2012: Passenger Demand Forecasting Scheme Manager, ATOC

Responsible for management of the cross-industry Passenger Demand Forecasting Scheme, liaising with Train Operating Company (TOC) and other industry (DfT, Network Rail ORR, Transport Scotland, TfL and PTEG) representatives to maintain and develop the industry standard evidence on the factors influencing demand for rail travel in Great Britain. Provided expert advice on demand forecasting within ATOC and externally, including participation in industry steering groups.

Undertook strategic research and analysis for other areas of ATOC - in particular the Policy and Planning team - and the wider industry, including as input to key policy documents such as the Initial Industry Plan. This covered a range of key issues including fares policy, capacity utilisation and the impacts of the rail industry on the UK economy and core cities. 2011 research on capacity utilisation and demand management for the Planning Oversight Group (POG) provided input for the Rail Delivery Group. Undertook international comparisons of rail fares and demand modelling to contribute to the industry fares review; estimated the financial implications for TOCs of the European Rail Passenger Rights legislation, including presenting summaries of key impacts to TOC management. Also assisted the ATOC Corporate Affairs team with press releases and publications, providing input and advice on areas including industry costs, funding, demand and economic impacts.

Commissioned fifteen demand forecasting related research projects (total value over to £500k) from major transport consultancies and academic institutions. Developed specifications for each study with input from expert steering groups and managed suppliers to successful delivery of findings to the industry. Areas studied include Regional Flows, Ticket Gates, Recession Response, Car Parking, Ticket Type Choice, Customer Satisfaction, Hours of Service Operation and Market Churn. Also responsible for management of the scheme budget, organisation of meetings, recruitment of associate members and management of work programme and related timescales.

Managed the major update of the Passenger Demand Forecasting Handbook (PDFH) to version 5; this involved scoping the work to meet stakeholder requirements, commissioning, and forming an expert panel to work with the consultants throughout the project.

Expert/technical advisor for a study undertaken by the Centre for Cities on the impact of rail investment on the economy (“On Track: Why rail matters”). Provided advice on the estimation of rail user benefits and agglomeration benefits resulting from five investment schemes including Liverpool – Manchester electrification and line speed improvements on the Midland Mainline.

Undertook research on the impact of passenger rail on the UK economy. Conducted a literature review of the evidence of the link between rail and economic growth and interviewed key experts. Estimated the impacts of the existing network and passenger services on the UK economy, including benefits to passengers, business and non-users.

May 2007 to November 2008: Business Policy Analyst, ATOC

Reporting to the ATOC Director of Policy and Regulation, undertook strategic analysis covering a range of issues including whole-industry economics, planning and operational performance. Examples included: Analysis of TOC cost trends since privatisation, including estimation of the relationship of unit costs to scale of operation and passenger demand.

ATOC Connecting Communities: Led the economic and business case analysis for this report which was published by ATOC in 2009. Responsible of identification of towns with significant populations

currently poorly served by the rail network and of economically viable expansions to the current rail network to better meet local demand. Undertook demand forecasting, economic appraisal and conducted site visits to determine the feasibility of implementing new or restored rail links. Presented results to key stakeholders and interested parties.

March 2003 to May 2007: Imperial College London

Senior Research Associate, Railway and Transport Strategy Centre, Centre for Transport Studies

Metro Railway Benchmarking CoMET and Nova – Project Management for Case Studies to compare international metro performance and to identify international Best Practices in a number of key areas (see below for details of individual studies) as part of the CoMET and Nova benchmarking groups. Involved in the collection, comparison and analysis of annual Key Performance Indicator data. Undertook visits to individual metros and participated in international meetings of the benchmarking groups hosted by member metros, including the presentation of key study results. (The CoMET metros are Berlin, Hong Kong MTRC, London, Madrid, Mexico, Moscow, Paris, New York, Sao Paulo, and Tokyo. Nova includes Buenos Aires, Dublin, Glasgow, Hong Kong KCRC, Lisbon, Montreal, Naples, Newcastle-upon-Tyne, Rio de Janeiro, Santiago, Singapore, Taipei and Toronto.)

CoMET Rolling Stock Reliability – Project Manager for a major research project which included econometric analysis to identify the drivers of metro rolling stock reliability as well as identification of best practices through interviews with key staff. Organised a two-day best practice workshop in Madrid enabling rolling stock engineers and managers to exchange knowledge on key reliability issues.

Nova Energy Saving Initiatives – Compared energy consumption between the metros in the CoMET and Nova groups and identified successful methodologies – both managerial and technical – which have been implemented in order to reduce energy consumption. Investigated methods by which metros have been able to reduce the unit cost of electricity through supplier negotiation and exploitation of liberalised energy markets.

Nova Service Quality Measurement – Identified the methodologies and indicators which are being used by CoMET and Nova metros to measure the quality of the service which they provide to their customers in an objective manner. Assessed the existing measurement methods against the European Standard for service quality in public transport (EN13816), and identified the importance of service quality measurement and the benefits to be gained from the process. Developed guidance for metros wishing to implement service quality measurement, or to enhance their existing systems, and assessed the potential for comparison of unified service quality indicators across metros.

Nova Ticketing Study – Assessed the ticketing systems used by the CoMET and Nova members in relation to four key aspects – Ticket Sales and Roles of Station Staff, Controlling Fare Evasion, Courtesy of Ticket Sales Staff, Cash Handling and Collection. Identified best practices in each of these areas and considered the potential for metros to adopt these practices.

CoMET Noise and Vibration Study – Identified the main causes of noise and vibration from metros, based on consultation with CoMET and Nova members and a review of relevant literature. Considered how the noise and vibration created by metros can impact on local populations and the measures which metros can adopt both to decrease the actual noise/vibration level and to manage the impacts through communication with those affected.

CoMET Accident Precursor Monitoring – Compared data for accident precursors across a selection of metros from CoMET and Nova, according to common definitions developed as part of the study. Also compared precursors with top event, injury and fatality data to determine the relationship between the precursors and more serious incidents. Participated in international workshops with safety managers from individual metros to share experiences of best practice.

CoMET Procurement Management Strategy – Compared the organisation, role, and objectives of the procurement department within participating metros. Identified the measures which are used to assess their performance, both in terms of efficiency and effectiveness, and the best practices which are being used. Established the degree to which each of the metros is procuring items internationally, and assessed the differences in regulations which impact on the decisions to do this and the benefits to be gained from exploring new markets. Undertook experimental unit cost benchmarking to determine the efficiency of different metros at procuring common items.

CoMET Metro performance: London-Berlin Comparison – Researched details of the internal and external factors in the metros and cities of Berlin and London which are believed to impact on the performance of the two metros, separating those within the metros' control from those over which they have no influence. Compared the difference between factors and estimated the likely impact on performance due to these differences. Interpreted differences in measured performance, including the results of Data Envelopment Analysis, in relation to the influencing factors identified.

CoMET Capability Upgrade study – Identified good practices which metros should take into consideration during the planning, development and implementation of infrastructure improvements. Participated in interviews with relevant staff in selected metros.

International Bus Benchmarking Group – Involved in the development of an international bus benchmarking group set up to compare performance and identify best practice across a range of urban bus systems including identification of potential members and development of a common Key Performance Indicator (KPI) system. Participated in international meetings attended by senior managers from the participating organisations, and carried out visits to some individual members.

Transport for London Door-to-Door Transport Study – Developed a methodology for the inclusion of public transport services (bus, underground, suburban rail and tram) into a logit model covering Greater London to be used by TfL for the forecasting of demand for special transport for elderly and disabled people. Identified suitable parameters to represent the attractiveness of public transport modes to these specific user groups, and calculated these parameters based on data provided by TfL together with knowledge of the public transport system.

Strategic Rail Authority, UK: Benchmarking the Passenger Railway – Developed a set of benchmark measures to compare the performance of UK Train Operating Companies, as part of a study commissioned by the UK Strategic Rail Authority. Measures were focused on cost drivers underlying train service operations. Train performance and reliability, as well as revenue-generation, were also considered. As a pilot study, the aim was to demonstrate the value and potential for benchmarking, and to identify most the profitable avenues for a more formal benchmarking programme. Carried out an in-depth investigation of performance drivers for a small set of operators.

Department for Transport, UK: Review of Peoplemover Technologies in Urban Areas – Updated previous study carried out for the (then) Department of Transport comparing a variety of public transport modes on a theoretical urban corridor, with inclusion of two innovative transport modes. Comparisons covered infrastructure and operations costs and capacity provided. An assessment of the relative advantages to passengers of each mode was also made, based on the calculation of generalised costs for a typical trip length. Environmental impacts of each mode were also considered.

October 2000 to February 2003: Mott MacDonald Group

Rail Planner, Integrated Transport Division

Audit of Strategic Rail Authority (SRA) Appraisal Template – Project Manager for audit of the SRA's spreadsheet-based template for the appraisal of schemes. Recommendation of improvements to the template and PLANET model macros to provide a better interface.

West Anglia Route Modernisation Enhancement – Analysed proposed future service patterns in comparison to existing service levels. Developed a spreadsheet-based model for the calculation of operating costs and carried out economic appraisal for a range of service options using PLANET model results. Estimated benefits due to capacity relief and journey time savings for both Stansted

Express and other West Anglia services. Determined additional rolling stock requirements for providing capacity relief on Stansted Express services to cater for forecast growth.

East London Line Extension Modelling – Carried out demand forecasting for proposed service options using both PLANETMM and RailPlan models. Determined economic benefits, passenger volumes and crowding levels for a range of service and route options. Analysed impacts of different future year demand and base network assumptions on demand for proposed services.

London to Ipswich Multi-Modal Study – Involved in the development of logit models to forecast rail demand for proposed east-west rail services and assess the revenue and journey time benefits.

SRA Chiltern Re-Franchising – The revenue impact of proposed future timetable options was estimated using MOIRA. The project included prediction of the effects on demand for Chiltern services as a result of the proposed weekend engineering blockades of the West Coast Main Line.

SRA CTRL Domestic Technical Advisors - Assessed proposed domestic services on the Channel Tunnel Rail Link using the PLANET model and calculated costs and economic benefits for the options. Development of a spreadsheet access model for Ebbsfleet station to estimate the use of the station as a park-and-ride terminal for London commuters.

Chandler's Ford Shuttle - Analysed the effect of scheme options using a spreadsheet based logit model, including the impact on demand of improving pedestrian access and accident saving benefits as a result of modal switch from car.

West Anglia Route Modernisation - Analysed existing West Anglia service pattern, and developed proposals for future options reflecting existing and predicted demand. Possible future service patterns were analysed using PLANET. Assessed pattern and level of demand, impact on crowding and journey times and calculated operating costs for proposed service options.

Applications of PLANET Demand Forecasting Model – Assessed the demand and revenue impact on train operators of PUG1 and PUG2 on the southern end of the WCML using PLANETMM. Analysed crowding benefits, changes in routing and services used for specific origin – destination flows using disaggregate analysis. Assessed the ability of PLANETMM to model London orbital rail services using a comparison of PLANET forecasts, terminal census results and passenger counts. Created macros to carry out matrix manipulations and network calculations.

Taxi Operations at Paddington Station – Analysed data from automatic counters at Paddington in relation to the impact of Heathrow Express. Analysis of the distribution of taxi supply over the the day, week and year and changes in taxi supply total and profile due to industrial action on LUL.

ORBIRAIL London Orbital Railways Capacity Review – Determined constraints to capacity by carrying out a review of documents relating to study area network, including Sectional Appendices and Rules of the Plan. Factors included signalling headways, restrictions on loading gauge and axle weight, conflicting movements and track layout restrictions at junctions, and service patterns. Proposed schemes for the alleviation of these constraints were considered. Links in the network were grouped in to categories according to constraints on loading gauge, route availability and electrification. Operational analysis to create a series of spreadsheets for the determination of capacity on the proposed Orbirail network. Undertook demand forecasting using PLANETMM.

Connex Rail Franchise Support – Carried out research into the economic and demographic characteristics of the areas to be served by the proposed Thameslink 2000 franchise. Considered population growth rates, principal economic sectors of the individual areas, and levels of employment, both in terms of past trends and forecast future changes. Transport infrastructure was also considered, looking at the strength of competition to the proposed Thameslink 2000 services.

Leisure Couples New Product Development Study – Reviewed the availability and characteristics of ticket products offered by UK Train Operating Companies offering discounts for two (or more) adults travelling together, together with similar products offered by the national railways of other European countries, and by competitors to rail in the UK. Reviewed previous research into existing

Railcards developed under British Rail, in particular taking account of the aspects of this research relevant to the proposed new product. Responsible for the consultation with Rail Passenger Committees and Rail User Groups to understand their views of possible new group travel tickets.

Dussindale Station Feasibility Study – Analysed survey of potential users living in the vicinity of the proposed station site. Determined key origin-destination flows considering the potential for these journeys to be made by rail. Determined household and car ownership data for the area and the current level of rail travel by the respondents.

Additional Skills and Experience

- Industry IT Skills:** Knowledge and experience with demand models including MOIRA/MOIRA2, PLANET, RailPlan and LTS, and LENNON (rail ticket sales) data extraction.
- General IT Skills:** Highly proficient in Microsoft Office software, including Word, Excel and PowerPoint.
- Language Skills:** English – Mother tongue.
German – Intermediate.
Spanish – Intermediate (learning at present).
Italian and French – Some basic knowledge.
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Selected Publications, Conference Papers and Presentations

Trends and success factors of organisational models in suburban rail - an international comparison. D Mundy and B Condry. 43rd European Transport Conference, Frankfurt, 28th – 30th September 2015.

Measuring and Valuing Convenience and Service Quality: A review of global practices and challenges from mass transit operators and railway industries. R Anderson, B Condry, N Findlay, R Brage-Ardao, H Li (2013). OECD round table, Paris, 12th -13th September 2013.

MOIRA2: A new timetable-based rail demand and revenue model. Presentation to the Transport Statistics User Group, London, 9th November 2011.

Market churn in the British rail passenger commuter and leisure markets. B Condry, A Mason, J Segal and M Dix. Paper presented at European Transport Conference, Glasgow, 10-12 October 2011.

Does customer satisfaction predict customer demand in the rail sector? R Sheldon, M Mayes, S Orr, B Condry. Paper presented at European Transport Conference, Glasgow, 10-12 October 2011.

Understanding the market for “out of normal hours” train services in Great Britain. G Davies, J Segal, M Dix, B Condry. Paper presented at European Transport Conference, Glasgow, 10-12 October 2011.

Connecting Communities: Expanding Access to the Rail Network, ATOC, June 2009.
http://www.atoc.org/clientfiles/File/publicationsdocuments/ConnectingCommunitiesReport_S10.pdf

Measuring the service quality of the bus service. 5th UITP International Bus Conference. Bus Systems without Limits - Attractive, Accessible, Adaptive, Clean and Cost-Effective, Bogotá, Colombia, 14-16 February 2007.

International Bus System Benchmarking: Performance Measurement Development, Challenges, and Lessons Learned. Randall, E. R.; B. J. Condry, and M. Trompet. Paper for (United States) Transportation Research Board 86th Annual Meeting (2007).

Accident Precursor Monitoring – A Model that Works to Improve Safety. Hirsch, R.C.d'A and Condry, B.J. Asia-Pacific Conference on Risk Management and Safety, 2005.

Service Quality on Metro Railways. Centre for Transport Studies Research Seminar, Imperial College London, 24th November 2004.

Professional Affiliations

Member of the Rail Committee for the European Transport Conference (ETC)

Member of the Transport Economists Group