

An action learning course

Economic Evaluation of Road Infrastructure Projects

23-24 August 2005

UQ Business School Downtown • Level 19 Central Plaza One • 345 Queen St • Brisbane

- ↘ selected aspects of transport and economics theory
- ↘ 'hands on' evaluation of key aspects of simple and complex urban road projects
- ↘ interpretation of policy implications of transport model outputs and evaluation result
- ↘ proper specification of transport model outputs & use for correct benefit estimation
- ↘ theory of discounted cash flow analysis and relevance in evaluation
- ↘ comprehensive references, background readings & spreadsheet templates



Jointly presented by Economic and Policy Services, Policy Appraisal Services,
Queensland University of Technology & The University of Queensland

Economic Evaluation of Road Infrastructure Projects

Description: The Australian government has introduced AusLink, a new policy for improved planning and accelerated development of Australia's land transport infrastructure. It will transform the planning and funding of Australia's national roads, railways and inter-modal terminals by taking a long-term, strategic approach to future needs. AusLink introduces new demands for the application of cost-benefit analysis to transport projects, with success in gaining finance linked to the quality and results of evaluations. The course outlines the features of recently released national evaluation guidelines.

The course outlines principles that underlie economic evaluations, and the framework for economic evaluation, so that participants will understand the context, objectives, approach and use of economic evaluation. The course will briefly address other types of evaluation to give participants a broader perspective of the role and practice of economic evaluation. Particular consideration is given to multi-criteria analysis that encompasses the objectives of triple-bottom line evaluation.

Insights will be gained through discussion of practical issues such as the importance of the Base Case and its definition; estimation of project costs; differences between market, perceived and resource prices; the role of generalised cost; valuation of benefits; the evaluation period; residual values; and sensitivity testing. Participants will be involved in the evaluation of several projects, including an intersection upgrading, improvement of a section of road, and an improvement that has major network effects.

Finally, the course will address the link between transport demand models and cost-benefit studies. In particular it will address the way in which data from the models needs to be used to correctly determine project benefits and errors that are commonly made in estimating these benefits. These errors are often very significant and sometimes can dramatically change the results of an evaluation.

Who should attend: The course will be beneficial to staff of government agencies and consultants who are involved in planning and evaluation of transport projects, and for those who manage and use the results of such evaluations.

Course outcomes: At the end of the course the attendees should have developed:

- have an appreciation of the role, scope and practice of economic evaluations;
- be aware of data needs for economic evaluations of transport projects;
- understand practical methods for evaluating road infrastructure projects;
- have completed evaluation of several demonstration projects;
- be able to interpret the results of economic evaluations;
- appreciate differences between economic evaluations and other types of evaluation; and
- be aware of common errors in benefit-cost analyses.

Course leader: David Bray is the principal of Economic and Policy Services Pty Ltd. He holds degrees in economics and engineering, and has 32 years of professional experience as a consultant and government employee. He has worked mostly in the transport and urban development sectors in Australia and in twenty-one other countries. He has prepared economic evaluations for a large number and wide range of transport projects for governments in Australia and for international agencies such as the World Bank, the International Finance Corporation and the Asian Development Bank.

Presenters: Philip Sayeg of Policy Appraisal Services has 29 years of experience in transport planning and policy projects both gained as a consultant and in Government. With qualifications in engineering, management and urban planning, his experience includes planning, operational analysis and evaluation of major public transport and road projects in Australia, Asia and the Pacific. As a former Director of PPK Consultants (now Parsons Brinckerhoff Pty Ltd) he managed their Brisbane Office for a period of 5 years, was based in Asia for several years and returned to Australia after a period in Asia in 1995. Apart from domestic clients, he works regularly with the World Bank and other international agencies.

Luis Ferreira is Professor in Transport at the Queensland University of Technology (QUT). He has worked for 27 years in technical and managerial roles covering transport planning, research, management and consultancy. Luis has a strong multi-modal technical and management background encompassing road and rail, freight and passenger transport. Before joining QUT, Luis held senior management roles in Australian National Rail, Travers Morgan a major Australian Consultant, and was part of a team which undertook a major urban transportation study (Johannesburg). In those roles he has had practical experience in the evaluation of strategic transport options and major capital projects..

Phil Charles is Professor of Transport Strategy and Director of the Centre for Transport Strategy at the University of Queensland in Brisbane. He has over 30 years experience in transport infrastructure and strategy development, institutional development and appraisal in Australia and the Asia-Pacific. He has undertaken senior management roles in New South Wales and Western Australian state road agencies, as chief executive of a national association AUSTRROADS and as a transport consultant with Booz Allen Hamilton.

Economic Evaluation of Road Infrastructure Projects

Action Learning Course Program

Sessions include relevant theory and hands on application to real world project case studies

DAY 1: Tuesday 23 August 2005

start 8:30

Session 1: Strategic framework

Addressing needs to monitoring outcomes. Government desired outcomes. Importance of the right framework. The Project cycle. Project preparation. Performance measurement. AusLink requirements. (Charles/ Bray)

Session 2. Urban road project planning & appraisal

- Lecture on key aspects of transport planning theory, generalised costs for modelling & evaluation, value of time, sources of information
- Right modelling tools – urban transport models pros and cons
- Differences between small and large urban areas
- Common pitfalls – bridging the gap between transport analysis & economic evaluation (Ferreira/Bray)

Session 3. Estimating project benefits

- Review of DMR/QT approach
- Principles of economic analysis, externalities, difference between economic & financial
- Defining the base case
- Calculation of road user benefit including freight
- Mode switching benefit (Sayeg/Bray)

lunch 12:00-1:00

Session 4. Practical exercises

Group exercise: calculating generalised costs; estimating benefits for intersection and road link improvement projects; discuss the effect of different sources of data on benefit valuation; estimating external benefits; introduction to estimation of benefits when using travel demand model output

close 5:00

DAY 2: Wednesday 24 August 2005

start 8:30

Brief summary of Day One

Session 5. Costs, discounted cash flow analysis, and risk analysis

- Establishing Project and Base Case costs
- interpreting and applying discounted cash flow analysis
- Choice of decision criteria
- Differences between economic, financial and financing analyses
- Undertaking risk analysis and sensitivity testing (Charles/Bray)

Session 6. Practical exercise

Putting it all together: complete intersection and road link evaluations, including calculate net present value, benefit-cost ratio, internal rate of return, and sensitivity testing; discuss the estimation of benefits when using travel demand model output; calculate benefits when using model output, in particular the limited validity of use of fixed matrix approaches for transport modelling and evaluation and discuss common errors; identify key briefing points for transport modellers so that they provide data in the correct format; discuss when it is valid to include region-wide economic benefits such as effects on employment etc.

lunch 12:00-1:00

Session 7. Other approaches

Multi-criteria analysis, AusLink adjusted benefit cost approach; cost effectiveness, incidence/ distributional analysis (Sayeg/Bray)

Session 8. Group discussion

- Discuss how to apply the principles to evaluate other projects that are currently being proposed
- Review findings & link to policy
- Discuss issues eg data quality
- Lessons learnt from course (Bray/Sayeg)

close 5:00

Registration fees: includes attendance at all sessions, course materials, morning and afternoon refreshments and lunches. All prices are in Australian dollars & include 10% GST where appropriate.

- Full registration fee: \$1,690 per person
- Staff of Queensland Transport/Queensland Main Roads/Queensland Rail: \$1,270 per person
- Group of three or more paying together: \$1,270 per person

Further information: contact Philip Sayeg Tel: 07 3844 5266 E-mail: p.sayeg@uq.net.au

Disclaimer: The information in this brochure is correct at the time of printing. The Organisers reserve the right to cancel or change any aspect of the program without notice.

Registration Form

PLEASE PHOTOCOPY AS REQUIRED, one form per delegate, keep a copy for your records.

→ Complete and fax the form to: **OzAccom Fax: 07 3854 1507**

or mail to: *EERIP short course*, c/- Ozaccomm, PO Box 104, RBH Post Office QLD 4029

Please see conditions below. Please print clearly in black pen.

PARTICIPANT'S DETAILS

Name: _____ Preferred: _____

Organisation: _____ Position: _____

Postal Address: _____

City/State/Postcode: _____

Tel: _____ Fax: _____

Email: _____

Special Requirements (eg vegetarian, wheelchair): _____

REGISTRATION FEES

Registration includes attendance at all sessions, course materials (course notes, comprehensive reference list), morning and afternoon refreshments and lunches. All prices are in Australian dollars & include 10% GST where appropriate.

<input type="checkbox"/> FULL registration fee, per person:	\$1,690
<input type="checkbox"/> STAFF of Queensland Transport/Queensland Main Roads/Queensland Rail, per person:	\$1,270
<input type="checkbox"/> GROUP of three or more <u>registered together</u> , per person:	\$1,270
Total \$ _____	

PAYMENT

All fees must be paid prior to the course. Confirmation of registration & tax invoice will be sent

Cheque - please make payable to OzAccom Pty Ltd and return to the address below.

Cheques and bank drafts must be drawn on an Australian Bank in Australian dollars

Please debit my credit card Bankcard MasterCard Visa Amex Diners' Club

for the total amount owing on this form and fax to Ozaccomm on 07 3854 1507

Please note that debits to your credit card will appear as Ozaccomm on your statement.

Card No: _____ Expiry Date: _____

Cardholders name: _____ Signature: _____

For information on accommodation and travel or any registration matters contact:

The OzAccom Group Tel: 07-3854 1611 Fax: 07-3854 1507 e-mail: ozaccomm@ozaccomm.com.au
PO Box 104, RBH Post Office QLD 4029

IMPORTANT CANCELLATION & TRANSFER CONDITIONS:

Cancellation Policy: Cancellation and refund requests must be submitted in writing and received by 16 August 2005 for a full refund, less \$150 administration fee. Refunds are not possible after this time & the full fee is payable, unless there are documented extenuating circumstances of a personal nature (eg accident or illness) in which case the conditions immediately above apply. Substitute participants are welcome any time without incurring administration fees

Privacy Statement: Please note that in registering for this conference, relevant details will be incorporated into a delegate list for the benefit of all delegates and may be available for parties directly involved in running this the course.