

EXPERIENCE WITH TEACHING TRANSPORT POLICY AT A  
POSTGRADUATE LEVEL

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**ABSTRACT:** *The Transport Policy Unit within the M. Eng. Sc. Transport Engineering program at Monash University has the key aim of widening the professional perspective of the course members by a structured program of lectures, presentations, and discussions with the participation of distinguished guest lecturers. The paper presents the background to the course, and reviews experience with presentation in 1978 and 1980 in terms of the effectiveness of the course in achieving the key objective of change in perspective of professionals' role and contribution. An outline of the coursework material is included.*

INTRODUCTION

In 1977, the Engineering Faculty at Monash University introduced new regulations allowing for part-time candidature for Master of Engineering Science by a program of major coursework and minor thesis. This initiative was in response to a perceived need within the engineering profession for postgraduate specialist education in specific branches of engineering.

Within the Civil Engineering Department (one of five departments of the Engineering Faculty) it was seen as logical and desirable that the opportunity for specialization should extend to the four major groups within the department - structural engineering, geomechanics, water resources/ environmental engineering, and transport engineering.

For various reasons, the transport engineering stream did not commence in 1977. In retrospect, this was a decided advantage since the delay provided an opportunity for the staff of the transport group firstly to make a careful study of whether there was a need and demand for a postgraduate coursework program and (having answered that in the affirmative) secondly, to undertake a carefully detailed course and curriculum design. In both of these steps, assistance was provided by the Monash University Higher Education Advisory and Research Unit (HEARU).

Neither the process by which this course and curriculum design was undertaken nor the course itself, will be described here in detail. Suffice it to say that:

- (i) there was extensive consultation and collaboration with representatives of prospective employers, prospective "users", past research students in transport, the engineering profession etc.;
- (ii) the resulting course structures featured a 6-credit minor thesis, and fourteen 3-credit coursework units; (This structure is identical to that which had been adopted by the other groups in the civil engineering department - a "credit" represents 10 contact hours, and 48 credits are required to complete the requirement of the degree.)
- (iii) although fourteen units would be offered by the transport group, there would be flexibility to enable a student to substitute other approved units offered elsewhere in the university for those offered by the transport group, to a maximum of fifteen credits;
- (iv) an advisory committee was established to provide on-going liaison and communication with "user" and employer groups.

The course structure as at 1980 is shown in Table 1.

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ANALYTICAL TECHNIQUES

Statistics  
Systems Analysis for Transport  
Transport Engineering Economics  
Survey Methods & Data Collection

TRANSPORT TECHNOLOGY

Transport Technology

TRAFFIC ENGINEERING

Traffic Systems  
Traffic Engineering Practice  
Traffic Theory

TRANSPORT PLANNING

Transport Evaluation  
Transport Policy  
Transport Network Models  
Transport Choice & Behaviour Models  
Transport & Regional Structure

INVESTIGATIONS

Case Studies in Transport  
Thesis

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TABLE 1 M. ENG. SC. PROGRAM IN TRANSPORT ENGINEERING,  
MONASH UNIVERSITY.

This paper is concerned with one of the units offered in the program - Transport Policy. The suggestion to include a course on policy was made during the consultation process mentioned above. The need to address students' attitudes and perceptions towards transport was seen as potentially very valuable, particularly since the class would mostly comprise students with some years of professional experience. The objective of the unit was subsequently to be expressed as "to assist the student to relate his or her professional skills to the way in which those skills are used to seek solutions to transport problems", and "other units in the Master's program will enable the student to develop certain abilities and to become knowledgeable about various aspects of transport engineering; this unit will be concerned with the application of that ability and knowledge". In essence, the objective of the unit was to alter the students' perspective of their professional roles in the direction which experience and seniority would later require of them.

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Since the "teaching" of policy, and the emphasis on attitudes and perceptions rather than on skills and knowledge is rather novel, and since this particular unit has attracted some interest among professionals in Australia and overseas, it has been decided to document the experience with it to date. The paper addresses the development of the course for its first presentation in 1978, its 1978 format and feedback from that presentation. The changes made for a second presentation in 1980 and the feedback from that are reviewed in some detail. Conclusions and recommendations for future presentations are included.

### COURSE DEVELOPMENT - 1978

From the beginning, the course was conceived as essentially comprising a series of presentations from senior guest lecturers. However, to give substance and continuity to the course, as well as to provide an introduction and briefing to the various guest lecturers, it was thought necessary to add a more formal component to the course. This component, it was recognised, should be the responsibility of someone with extensive experience in policy formulation, implementation and administration, as well as having familiarity with the issues to be addressed by the guest lecturers. Since none of the staff of the transport group had such experience at the time, it was necessary to seek assistance from outside. The Australian Road Research Board kindly made available the services of Dr. M.R. Wigan for this purpose.

### COURSE FORMAT - 1978

The 1978 course format developed by Ogden & Wigan featured three distinct parts:

- (i) A lecture, by Wigan, to provide specific data and examples of the issues scheduled for that session, and to structure the subsequent discussion. Its function was to raise and illustrate some of the types of issues and questions which could be effectively and constructively responded to and expanded on by the guest lecturer, who was not present for this part (one hour).
- (ii) After a coffee break, a presentation from the guest lecturer (one hour).
- (iii) Discussion for the balance of the three-hour session.

Careful consideration was given to the selection of topics, and the guest lecturers invited to present them. The topics and speakers eventually decided upon are shown in Table 2.

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- (i) Mr. John Stanley, Chief Economist, Research & Policy Division, State Coordination Council Victoria.  
"Allocation of Resources to the Transport Sector."
  - (ii) Mr. Alan Rainbird, First Assistant Secretary, International Policy Division, Department of Transport.  
"Air Transport Policy - the International Context."
  - (iii) Dr. John Paterson, John Paterson Urban Systems Pty. Ltd.  
"Trade-offs between Cost, Quality and Quantity in Transport Policy Decisions."
  - (iv) Mr. Frank Yeend, Chairman, Office of Road Safety, Department of Transport.  
"Policy Implementation through Standards and Regulations: Road Safety."
  - (v) Mr. Harold Loxton, Director, A.M. Voorhees (formerly Chairman, Commonwealth Bureau of Roads).  
"The Role of the Public Service in Advising on Policy."
  - (vi) Mr. Richard Smyth, Chairman, NSW Planning & Environment Commission.  
"The Influence of the Public on Transport Decisions."
  - (vii) Mr. Nicholas Clark, Nicholas Clark & Associates.  
"The Role of the Consultant in Informing and Assisting Policy."
  - (viii) Prof. A.A.L. Powell, Dept. of Economic History, Monash University (and Advisor to Industries Assistance Commission).  
"The Use of Information on Policy Formulation."
  - (ix) Dr. Derek Scrafton, Director General of Transport, South Australia.  
"The Allocation of Resources within the Transport Sector."
  - (x) Mr. John Bayly, Deputy Chairman, Town & Country Planning Board of Victoria.  
"The Use of Transport to Achieve Non-Transport Objectives."
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TABLE 2 GUEST LECTURERS & TOPICS FOR DISCUSSION - 1978

A feature which was particularly encouraging at that time (and subsequently) was the willingness, even enthusiasm, of such senior and distinguished people to participate in the programme. Although some students were overawed by their presence, others took full advantage of the opportunity to discuss and debate issues.

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Sixteen students enrolled for the course in 1978. It is considered that this number is slightly larger than optimum, since free and informal interchange was not readily achieved. An open invitation was extended to the students to join the guest lecturer and staff for an informal meal after the lecture, and some students availed themselves of this opportunity for further discussion.

### FEEDBACK - 1978

At the conclusion of the 1978 course, a questionnaire, designed in conjunction with HEARU, and analysed by HEARU, was administered. This included two key statements to which students were to respond:

"I understand more clearly the role of the professional in policy."

"I now perceive my position and responsibility in my work situation differently."

The responses showed a marked positive response. Most of the negative comments were directed towards a perceived lack of cohesiveness, guest lecturers talking at a tangent to the specified topic, too high a level of difficulty in the first few formal lectures<sup>(1)</sup>, and some criticism of modal coverage. A number of positive suggestions were made, which included requests for material on official administrative structures and processes for transport policy formulation, for expanded coverage of non-transport groups who have a real influence on the transport system (lobbyists, politicians, action groups, pressure groups), and for the formal presentation to specifically set the scene for the guest speaker's topic.

### COURSE FORMAT - 1980

As a result of the analysis of the students' questionnaire together with staff assessments, it was concluded that:

- (i) it was possible to achieve the objectives of the course using the basic approach which had been adopted in 1978; but

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1. This was recognised by staff at the time, and a "lighter" load was imposed in later lectures. The students' response was thus expected.

- (ii) detailed changes were desirable and possible for the second presentation of the course in 1980.<sup>(1)</sup>

These changes involved firstly the introduction of a series of formal lectures, presented by Ogden, presenting details of transport administration and formal policy procedures in Australia and elsewhere. This replaced half of Wigan's 1978 presentation, which was then set to cover professional perspectives, value systems, issues related specifically to the guest lecturer's topic, and addressed the changes in organisational and professional perspective which occur as different types of issues (and their resolution) arise.

The format for the 3-hour session was thus:

- (i) Ogden (45 minutes): Transport policy and administration
- (ii) Wigan (25 minutes): Introduction to specific topic  
Coffee break
- (iii) Guest Lecturer (45-60 minutes)
- (iv) Discussion.

The first two of these are reviewed in more detail in the following sections.

#### FORMAL COURSE MATERIALS

The tracing through of specific policy issues the professional and analytic inputs, and their consequence influences on and in the policy processes had been used in 1978. The 1980 course made fewer assumptions about the student's background knowledge, and included specific descriptions of the formal policy structures of Australia, UK, and the USA. A list of the topics is presented in Ogden and Wigan (1981).

The topics for discussion in 1980 were not the same as in 1978. Issues had changed, and suitable speaker availability was an important part of the selection process. The 'mode specific' developing theme was the same: a progressive devaluing of 'analysis' as the uniquely rational basis for decisions and views in transport, followed by a constructive development of the key role that well-selected and understood information played in conditioning and influencing the perception and reaction to alternatives - and the considerable importance of professional environments in which professionals have to respond to diverse perception of their role were sought and specific areas of profitable questioning were generally offered. The topics and speakers chosen for 1980 are listed in Table 3. The summary

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1. The Masters' programme in transport engineering is of 2 years duration, with one-half of the units being given each year.

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notes supporting these topics are presented in Ogden & Wigan (1981).

- (i) Mr. John Stanley, Chief Economist, Research & Policy Division, State Co-ordination Council, Victoria.  
"Allocation of resources to the transport sector; resolution of conflicts between sectors; application of analytical techniques."
- (ii) Mr. Richard Smyth, Chairman, N.S.W. Planning & Environment Commission.  
"The influence of the public on transport decisions; ways in which the public affect policy; the role of the professional."
- (iii) Dr. Derek Scafton, Director-General of Transport, South Australia.  
"The allocation of resources within the transport sector; public and private sector; resolution of competition between modes."
- (iv) Dr. Colin Gannon, Director, Bureau of Transport Economics.  
"The role of policy advice agencies; policy versus background to policy; research and its relationship to policy."
- (v) Mr. Patrick Troy, Senior Fellow, Urban Research Unit, Research School of Social Sciences, Australian National University.  
"The role of the public service in advising on policy; the public servant and party politics."
- (vi) Mr. Robert Nairn, R.J. Nairn & Partners, Canberra.  
"The role of the consultant in informing and assisting policy; the importance of information."
- (vii) Prof. John Taplin, Professor of Transport Economics, University of Tasmania.  
"The importance of independent policy advice and comments; the role of special interest (lobby) groups; the value of information."
- (viii) Mr. John Bayly, Chairman, Town & Country Planning Board of Victoria.  
"The use of transport to achieve non-transport objectives; transport within a broader planning and policy framework."

... Continued



- (ix) Mr. Alan Reiher, Chairman, Victorian Railways Board. (1)  
"The role and objectives of railways in the 80's; constraints on achieving those objectives; ways of overcoming constraints; the role of research and information."
- (x) Mr. Eric Finger, Deputy Commissioner, Main Roads Department, Queensland.  
"The changing role and objectives of road authorities; formulation and implementation of policy in a specific purpose statutory authority."

TABLE 3 GUEST LECTURERS & TOPICS FOR DISCUSSION - 1980

METHOD OF ASSESSMENT

In essence, the assessment of a course of this type is in terms of examining the perception changes of the students, and thus the effectiveness of the course (and lectures) in achieving this. As a result, student assessment was for pass or fail only, and to assist in the formal assessment in both 1978 and 1980 the major component of the assessment was the submission of a 2000-3000 word essay on the role of the professional in policy making.

Each student was to take a policy issue with which he or she was familiar (usually from within the organisation for which they worked), and to relate the professional input to that issue to the final decision or current status of the issue.

Students were expected to attempt to use relevant material presented by the various guest lecturers, and show how it applied in practice in the case considered.

The essay was expected to be primarily concerned with the similarities and differences (if any) between the professional recommendation or position and the output, rather than on either the recommendation or output as such, except of course to the extent needed to elaborate the point. The emphasis was required to be on reasons for differences and similarities and on the role of the professional in respect of the particular policy issue.

In practice, this approach worked reasonably well. Most students were in the type of employment where there was little difficulty in selecting a suitable issue and assembling background material and data pertinent to it. However, perhaps

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1. Mr. Reiher took up his appointment with Vicrail after accepting the invitation to participate in the course. He was previously Chairman of the Public Transport Commission of New South Wales.

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inevitably, the more senior the person in his or her organisation, the more telling were the comments, and the greater depth of the perspective on the particular issue. It is thought that this is due not only to access to information and familiarity with the issue, but to a greater professional maturity. For this reason, it is concluded that the course, and the emphasis on sharpening perspectives and attitudes which it embodies, is likely to be of more value to someone with a few years' experience, rather than a fairly fresh graduate.

Confidentiality was necessary to the success of the essays, so no details can be recorded. However, some of the topics chosen are listed below to give an idea of the sorts of issues addressed:

Commonwealth government roads policy,  
collection and use of road accident data,  
public transport priority at intersections,  
metropolitan parking policies,  
cost recovery in Australian transport,  
area traffic control,  
private bus subsidies,  
provincial city airports,

In addition to assessment through submission of the essay, students were also required to prepare a critical summary of four of the guest lectures. Participation in discussion was also taken into account.

### FEEDBACK - 1980

The feedback from the 1978 course has been mentioned above. For 1980, a similar HEARU-designed and analysed questionnaire was used. In addition, students were invited to a "roundtable" discussion with Ogden and Wigan after the course had finished to explicitly discuss their reactions to the course. This was entirely voluntary and the fact that eleven out of the class of fourteen came was most encouraging, and indicative of the degree of interest in the course. The comments of HEARU, in comparing the responses to the questionnaire across the two years, are reproduced below.

#### (i) Content.

There is general agreement between the two years. The unit is seen as relevant, useful and interesting; the aims were thought to be clear and were considered to have been achieved. As in 1978, there is concern for a more balanced viewpoint and wider scope. With regard to scope, again respondents asked for political and policy making to be covered.

(ii) Assessment

There is again satisfaction with the assessment, although the majority of respondents thought they had spent too much time on the four review essays (the reverse was true in 1978). There is some concern with the allocation of marks to class discussion.

(iii) Teaching

Respondents were more positive about the perspective given by Dr. Wigan's lectures (compared to 1978). They were positive about Dr. Ogden's contribution and lecturing and about the guest lecturers.

(iv) Outcome

Once again the respondents were positive about the outcomes of knowledge, familiarity with concepts and understanding the role of the professional. They were less positive about the usefulness for their work (although still generally positive) and quite divided about any changed perception about their work situation (as in 1978).

Taking certain key questions: (1)

"The unit was interesting"	
agree or strongly agree	10
undecided	0
disagree or strongly disagree	1
"The scope of the unit should be wider"	
agree or strongly agree	1
undecided	6
disagree or strongly disagree	4
"The topic was covered at suitable depth"	
agree or strongly agree	5
undecided	4
disagree or strongly disagree	2
"The aims of the unit were achieved"	
agree or strongly agree	6
undecided	3
disagree or strongly disagree	0

1. 11 of the 14 students completed the questionnaire.

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"The time spent on the four review essays was worthwhile"	
agree or strongly agree	8
undecided	2
disagree or strongly disagree	1
The unit improved my knowledge of the subject"	
agree or strongly agree	11
"The material presented in this unit will be useful to me in my work"	
agree or strongly agree	6
undecided	2
disagree or strongly disagree	2
"I understand more clearly the role of the professional in policy"	
agree or strongly agree	9
undecided	2
disagree or strongly disagree	0
"I now perceive my position and my responsibility in my work situation differently"	
agree or strongly agree	6
undecided	0
disagree or strongly disagree	4

Overall, these responses are most encouraging, revealing not only that students found the course interesting and relevant, but that the primary aim of the unit - to affect perceptions and attitudes - was being achieved in large measure.

It is interesting to note that 2 of the 4 students who answered the last question in the negative (plus at least one of the three non-respondents) were relatively new graduates, having only a year or less of post-graduation experience. This reinforces the point made earlier that a certain professional maturity is needed in order to be able to appreciate the value of the course. Not the least important aspect of this maturity is perhaps the willingness to recognise that there is always more to be learned!

Some of the comments made in elaboration of the last question are reproduced below:

"Better understanding of the forces at work in the process of formulating policy. Professional integrity plays an important part in influencing policy."

"I am beginning to see the results of my own work in a much broader context, and also I am gaining a better appreciation of the positions of more senior officers in my organisation."

"I now perceive policy formulation somewhat more positively - as providing administrators and ministers with the information required to react sensibly when opportunities for change present themselves."

"I now have a much higher degree of appreciation of what I am doing in my work, or what it is tied to. I have always been interested in the policy aspects of my work, and I now feel that the lid has been lifted off a large can and I am peering in over the edge. The fact that the can is a can or worms only adds to the intrigue."

#### CONCLUSIONS

The most important conclusion must be that it is possible, using the format adopted, to change attitudes and perceptions about transport policy.

It is however, important to include some 'teaching' of factual material, not only for its value and intrinsic relevance, but also to anchor the course, and provide a common point of departure for all the course members into the more attitudinal aspects. The diversity of practical professional experience and the widely differing depth and breadth of backgrounds encountered on both courses emphasises this requirement.

It is clear that students need to have achieved a level of professional maturity (say 3 years post-graduation minimum) to be able to appreciate and relate to the perspectives taken.

The informal, "neutral" environment is one in which students who are by and large relatively junior in their organisations learn from and talk freely with very senior people in the profession.

For future presentations of the unit, it is concluded that the basic (1980) format is suitable, but detailed changes are called for as follows:

topics for discussion will, as always, relate to issues pertinent at the time, and the topic/speaker list revised accordingly;

a realistic timetable should be available to all parties and be adhered to (several students complained of lack of time for questioning guest lecturers);

Ogden's material should be summarized in handout form, and Wigan's summary notes should be available a week in advance;

consideration should be given to discouraging recent graduates from enrolling;

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if possible, class size should be restricted to 12-14 students;

students should be advised of the opportunities presented by following on to join with the guest lecturer at dinner, and encouraged more strongly to attend;

a stronger emphasis should be attached to informing students of the nature and importance of the course.

### REFERENCES

OGDEN, K.W. and WIGAN, M.R. (1980) Experience with Teaching Transport Policy at a Postgraduate Level, Monash University, Civil Engineering Working Paper 80/20, Melbourne.

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