

O E C D

1970年道路研究計画

ROAD RESEARCH PROGRAMME FOR 1970

資料 540号

昭和44年9月

建設省土木研究所

ORGANISATION FOR ECONOMIC
COOPERATION AND DEVELOPMENT

RESTRICTED

Paris, 19th June, 1969

RR/SC(69)3

Scale 6

Or. Fr.

ROAD RESEARCH PROGRAMME

Programme for 1970

1. The Programme for co-operation in the field of Road Research, attached hereto, has been drawn up by the Secretariat on the basis of the general directions given it by the Steering Committee at the session in April 1969.
2. In accordance with the instructions of the Steering Committee, the Secretariat submitted this programme for the attention of their Bureau who met for this purpose on 2nd June, 1969, and approved the text.
3. The Programme for 1970, as attached, is submitted to the Committee for Co-operation in Research for COMMENT in accordance with Article 3 of the Decision of the Council regarding the inauguration of the Programme /C(67)132 (Final)7. The Programme, including the comments of this Committee, will later be submitted to the Council of the OECD for approval.
4. Annex III to this document, containing information on the progress of the work of the Research Groups under the 1968-69 Road Research Programme, is being issued separately.

PROGRAMME FOR 1970

1. The Steering Committee for Road Research met in April 1969 to hold an exchange of views on the objectives and details of the Programme of Work which it proposed to put into operation in 1970. Analysis of the first results obtained induced the Committee to pursue its efforts in co-operation in accordance with the principles which it had drawn up for its three-year programme and which it had submitted to the Council in July 1968, LC(68)717.

A. STEERING COMMITTEE

2. The meetings held in October 1968 and April 1969 gave the Steering Committee the opportunity to exercise joint functions:
 - (i) To take responsibility for the management and co-ordination of co-operative activity in Road Research and Documentation through thorough and critical examination of reports regularly submitted to it by both the temporary working groups responsible for reporting on the exact stage reached in research in certain areas of Road Construction, Safety and Traffic, and also by the Operational Committee which is responsible for ensuring co-ordination in the documentary system.
 - (ii) To provide a forum where Members of the Committee could exchange views on their experiences, programmes and national priorities, thus bringing to light those fields calling for priority action and harmonizing their policies for documentation. In this way, the first meeting of the Committee gave an opportunity to bring up and discuss various problems relating to Road Traffic and at the second meeting in April problems relating to Road Safety were approached in the same way. A confrontation meeting on Road Construction will be held in April 1970. The mandates for the Research Groups, whose creation is proposed under Part B of the Programme, have been drawn up in full consideration of the conclusions of these meetings.
3. The seven temporary Research Groups set up within the framework of the first Programme of the Committee will reach a conclusion in 1969 and agreements in bilateral and multi-lateral co-operation will be worked out for the continuation of this type of activity. While avoiding the creation of permanent structures, the Committee will be concerned with ensuring that the Member countries which contributed to the elaboration and operation of the Programmes are kept informed regularly of these agreements and of the conclusions reached as result of the research undertaken.

4. Further, the Committee proposes to encourage the use of all scientifically-valid methods in research programming in order to determine criteria for evaluating priorities in its future programmes, and requests the advice of Member countries in this connection.
5. In order to avoid unnecessary duplication between the work of the Committee and that of other international organisations, working relations have been established with other international organisations dealing with matters relating to Road Research, and in particular, with:
 - the International Road Federation
 - the World Health Organization
 - the Economic Commission for Europe
 - the Council of Europe, and
 - the European Conference of Ministers of Transport, with whom the Secretariat is in permanent contact as a means of harmonizing the work of the two organisations.

B. CO-OPERATIVE RESEARCH

I. GENERAL OBJECTIVES OF THE 1970 PROGRAMME

6. Examination of the results obtained by the seven Research Groups set up within the 1968-69 Programme has shown the need to set higher objectives than simply the exchange of experience and the consideration of state of the art reports. These Groups, whose achievements are outlined in Annex III, have on the whole been successful in proceeding, usually at the outcome of a second meeting, to a scientific evaluation of the problems falling within their competence and to the drawing up of a list of subjects of research calling for special attention in the years to come. Some of the Groups have determined in a detailed manner recommendations for programmes to be undertaken at national or international level.
7. The Steering Committee would like to draw to the attention of the Council the usefulness of the working methods which it has sanctioned. Through the medium of temporary Groups which bring together researchers from laboratories engaged in the scientific study of a given problem, Member countries are able to benefit from advice which leads to the orientation of their research programmes, and to take bilateral or multilateral co-operative action to this end. Within the framework of its 1970 Programme, the Steering Committee means to authorize the temporary Groups not only to make state of the art reports but also to advise the Committee on research programmes which ought to be undertaken. The Committee has therefore instructed the Secretariat to prepare guidelines for these Research Groups, stating the aims and orientation of their work.

8. In the 1970 Programme most of the Groups will therefore be responsible firstly for informing the Steering Committee of the conclusions reached at international level by technical experts on the most important research problems which arise in the fields of their competence and secondly for drawing up broad lines for programmes to be put into operation to bring a rapid solution to these problems.

These programmes ought in particular to be composed of:

- (i) a brief outline of the principal subjects of research to be examined;
- (ii) proposals for action and/or working methods necessary in elaborating and operating a research programme, indicating, for example:
 - national action,
 - bilateral or multilateral co-operation between national research laboratories;
- (iii) considered suggestions for the possible sharing of research work, taking into account the special interest of participating countries;
- (iv) an indication of those laboratories wishing to become responsible for the administration of Programmes, under the auspices of the OECD;
- (v) proposals on the exchange of the results of co-operative research.

9. At the same time, other working methods will be tried out by the Steering Committee in the course of 1970; in particular, on a specially difficult problem of research an effort will be made to organise a 5-day meeting at which experts will proceed to analyse and summarize the results of research undertaken in the Member countries in assessing the effectiveness of their campaigns for road safety. At the outcome of this meeting and on examination of the conclusions reached, the Steering Committee will decide whether it is suitable to continue to make a Research Group responsible for the proceeding with the elaboration of scientific methods aimed at evaluating the effectiveness of mass-media in the field of road safety.

10. As regards the temporary Research Groups to be set up in 1970-71, the Committee considers that their number could be suitably reduced to six because of the larger amount of preparatory work to be entrusted to the permanent Secretariat.
11. The Research Groups are as follows, details of their objectives being given in Annex I:
 - a) Road Construction: Two Groups will be created - one for the study of the water-tightness of concrete bridge-decks; the other for the study of the damage to roads in winter. Furthermore, a Symposium on the Quality Control of Road Materials will be organised in France in October, 1970.
 - b) Road Safety: A Research Group will be responsible for the study of the scientific control of the effectiveness of campaigns for road safety; a second Group will advise the Committee on priority research to be undertaken on accidents at junctions in urban zones.
 - c) Road Traffic: A Group will advise the Committee on research to be undertaken with a view to optimum utilization of bus services in urban zones; another will advise on the service characteristics of two-way highways.
12. It will be noted that, as far as possible, research programmes on Road Safety and Traffic have been directed at fields where very soon the highly-motorized countries will require to adopt common policies, in an attempt to found these policies on a scientifically-sound basis. The Secretariat of the European Conference of Ministers of Transport has been informed of the research subjects selected by the Steering Committee. They have indicated that some of the subjects came very close to areas with which the ECMT had been pre-occupied for many years and in which they had developed policies and taken administrative action. The opinion is that this situation will help in the rapid utilisation of the results of research in matters of administration and policy.

C. INTERNATIONAL ROAD RESEARCH DOCUMENTATION (IRRD)

I. GENERAL OBJECTIVES OF THE 1970 PROGRAMME

13. International Road Research Documentation (IRRD) is a decentralised system for the exchange of information on Road Research which has been operating within the framework

of the OECD since January 1965. The system is designed to provide all participating countries with complete and unified information on literature in Road Research and on research in progress in this field throughout the world. The only contribution which is asked of participating countries is to scan the literature, to gather information on research in progress in their country (in certain cases, if suitable, to be responsible also for scanning the literature of certain non-Member countries) and to prepare the relevant "information sheets" and "research project" sheets.

The Steering Committee, in preparing the Programme for Road Research for 1968-69, recognised the usefulness of IRRD in according an important priority to this activity. For 1970 the Steering Committee considers that the IRRD should continue to be given the same priority in the Programme.

14. Under the 1968-69 Programme, the Steering Committee was able, through thorough enquiries on the operation of IRRD in the Member countries, to ascertain its advantages and disadvantages and the problems encountered in the application and utilisation of the IRRD system in these countries. As a result of this investigation, the Committee will be able to indicate which steps should be taken so that the system:
 - better meets the requirements of Member countries;
 - develops in harmony and compatibility with other documentary systems covering the same or allied fields;
 - copes with the ever-increasing amount of information items placed in documentary memory - of the order of 2,000-3,000 in 1965, now of the order of 10,000-12,000 and in some years likely to reach a total of several multiples of 10,000 information items per year.
15. The Programme for 1970, which will be principally devoted to applying the measures necessary for the general administration and future development of the system, can be described under the following six fields of action:
 - (i) The IRRD Operational Committee, under the chairmanship of the Steering Committee Delegate for IRRD matters, will continue to be responsible for the necessary co-operation among the three co-ordinating Centres responsible for documentation in English, French and German respectively, and to solve the technical problems which constantly arise in this co-operative system.

- (ii) Working agreements with the Highway Research Information Service (HRIS) of the United States will be strengthened in order to better correlate the IRRD system with that of the HRIS.
- (iii) The Operational Committee will devote its efforts to an intensified exchange of information on research projects in progress, the necessity for which has also been underlined by the groups responsible for examining the state of the art in specific fields of Road Research.
- (iv) The Steering Committee will also consider the possibility of bringing improvements to the present system without changing the fundamental principles of IRRD.
- (v) If it proves expedient, the Steering Committee envisages the preparation of a quarterly Information Bulletin containing all IRRD sheets issued during the preceding three months. This Bulletin would be put on sale; its preparation would not be undertaken unless the activity could be self-supporting financially.
- (vi) It is the intention of the Steering Committee also to consider from now on, the long-term development of IRRD, in particular as regards preparations for the more general use in Member countries of computers for handling scientific information on Road Research.

II. PROPOSED ACTION

16. Operational Committee

- This Committee will meet regularly to ensure practical co-operation and to solve the technical problems arising in the operation of the IRRD. Meetings of the Committee will be held in each of the three Centres in turn, in order that the problems which arise may be solved on the spot in the co-ordinating Centre concerned.
- A member of the Highway Research Information Service of the United States will take part in certain meetings of the Operational Committee as an associate member; this aims at facilitating the development of the co-operation between IRRD and HRIS which is already being pursued very actively.
- When the Operational Committee deals with problems relating to the collection of information on research projects in progress in Member countries, a representative of the International Road Federation may attend discussions on invitation. This also has the aim of facilitating co-operation between the two organisations.

- The third revised version of the Thesaurus, to be worked out in 1969, will be put into use in 1970. It is planned that the Thesaurus will cover in a more uniform manner all sectors of Road Research (Construction, Safety, and Traffic).
- The 1970 Programme will allow for:
 - a) the application of rules for indexing and for the drafting of abstracts, drawn up and put to the test during the last six months of 1969; the same applies to the definition of the exact field covered by IRRD.
 - b) The making of an inventory of all national information sources (journals and periodicals, organisations carrying out research work, editors, etc.) which will be kept up to date at periodic intervals. This will, on the one hand, enable the coverage of IRRD in the Member countries to be better known and, on the other hand, facilitate laboratories in Member countries in obtaining copies of the original documents of interest to them.
 - c) The question of reducing delay between date of appearance of information and date of entry into documentary memory in the IRRD system will be subject to special study.
 - d) Keeping researchers and other interested circles in Member countries informed of the possibilities offered by Road Research documentation. For this purpose the Secretariat intends to draft and circulate a booklet giving a description of the aims of the IRRD, its organisation and operation, the fields it covers, its working rules, a list of its information sources and of the documents which it makes available to users, etc. One of the advantages of this booklet will be that it will enable the national Centres to enlarge the field of IRRD-users.
 - e) The Steering Committee will be considering whether it might be useful to enter into co-operative agreements with other organisations or non-Member countries.

17. Working relations with the HRIS of the United States

Two main systems of Road Research documentation exist in the world; the Highway Research Information Service of the United States, and the IRRD. Since 1966, working relations have been established with HRIS, in the first place by means of a bilateral agreement between the HRIS and the United Kingdom.

As a result of enquiries undertaken in 1968 and in the first half of 1969, the Steering Committee considered that working relations ought to be strengthened between HRIS and IRRD - two documentary systems covering, on the whole, similar fields.

This would imply:

- a) harmonization on a number of points: fields covered, rules for the preparation of abstracts, indexing rules, material scanned, conversion table for Thesauri, etc.
- b) preparation of a series of working agreements so that information gathered under both systems can be incorporated in their respective documentary memories.
- c) preparatory work with the aim of promoting the use of modern information techniques.

These various questions will be settled at special meetings of the Operational Committee at which a representative of the HRIS will take part.

18. Research projects in progress

Several organisations in the Western world operate at present under mandate to collect information on research in progress, in particular: the Bureau of Public Roads (BPR) and the Highway Research Information Service (HRIS) which collect information on research undertaken in the United States, the IRRD which collects information relating to its Member countries, and the International Road Federation (IRF) which, under contract to the BPR, covers certain countries in other parts of the world. The enquiry made by the Steering Committee in 1968-69 enabled it to be seen that the criteria used by these Organisations, though similar, were not identical. Therefore the Steering Committee will apply itself in 1970 to standardizing the fields covered by these Organisations, their working rules and the levels of information which it is suitable to collect.

An effort will also be made to proceed to an updating of information collected in previous enquiries.

19. Practical improvement of the present system

As it is formed at present, the IRRD scheme meets the needs of documentation centres in Member countries, at least those needs which became evident in 1965. Nevertheless it has been found that new problems arise, some requirements having undergone substantial modification.

The process of manipulation of the forms used presents the centres, and particularly the three co-ordinating centres, with a heavy burden: manipulation, reproduction, expedition and postal costs, etc. Also this manipulation has an effect on the delay in having information presented in its secondary form. Furthermore, it is foreseen that the quantity of documentary material to be circulated within the IRRD in the next few years may lead to a much greater work-load for some of the documentary services and will certainly increase the work of the three co-ordinating laboratories.

The Steering Committee therefore proposes to have the problem of improving documentary media (paper sheets, microsheets, microfilms, computer tapes, etc) examined in 1970, in order to find a better solution to the problem of circulating IRRD information. Further, the Steering Committee proposes to authorize that a study be carried out to see whether changes to the present system of operation might render it more economical and more effective.

20. Direct information to researchers

The Steering Committee studied, in 1969, the matter of how a direct information system to researchers could be put into operation in parallel to the IRRD and, in order to do this, the Steering Committee is considering the possibility of publishing a quarterly bulletin of IRRD sheets, to be on sale in interested circles in Member and non-Member countries. The bulletin would be financially self-supporting.

21. Long-term development in Road Research documentation: use of computers

From now on the Committee intends to prepare itself to cope with the problems which will quickly arise in most of the Member countries from the use of computers in the handling of scientific information in Road Research. An ad hoc group will be set up in 1970 to allow for exchanges of views between representatives of laboratories where computers are used as documentary memories. The Group will state the true position at that time and propose suitable standards, codes and measures so that all Member countries of the IRRD using a computer may (irrespective of make and type of computer) be able to exchange information on magnetic tape.

From this study, the following possibilities will be considered:

1. Determining instructions to be followed by IRRD Member countries in transferring information into computer data file, in order to ensure compatibility between the different systems from the outset.
2. Improving IRRD's compatibility with other documentary systems covering allied fields (such as transport) or the same field. This is distinctly the case as far as the HRIS is concerned.

This preparatory work will very likely influence the Proposals which will be submitted to the Council in July 1971 at the end of the first period of the Programme for Road Research.

ANNEX I

TERMS OF REFERENCE FOR THE RESEARCH GROUPS

1. ROAD CONSTRUCTION RESEARCH

1.1 Research Group G3 : Protection of Bridge-Decks in Reinforced and Prestressed Concrete

Terms of Reference

It is generally accepted that concrete bridges should be covered by waterproofing courses.

Because of the porosity of concrete, cracks and localised defects (e.g., joints between prefabricated elements) there is in fact always a risk of ingress of water which may lead to corrosion of the reinforcements. The extent of rapidity and damage caused by this corrosion is relative to the amount of aggressive substance dissolved in the water, such as de-icing chemicals used in snow and ice removal.

These waterproofing layers should have a certain number of qualities :

- permanent and complete water-tightness, in particular preventing the entry of water between the waterproofing layer and the bridge-deck ;
- satisfactory performance under vehicular traffic ;
- good adherence to the road surface above ;
- be easy to construct.

To date none of the present methods seems to have given complete satisfaction in meeting all of these requirements.

The research group will require to review the methods in use at present in the various countries, to make a critical appraisal and to make recommendations on the results to date and the orientation of future research.

Reporting date : December, 1970.

Expected number of meetings : three meetings.

Initial background paper : to be prepared under the responsibility of the Delegate for the United Kingdom.

1.2 Research Group C4 : Winter Damage to Road Pavements

Terms of Reference

For some years the use of recent winter maintenance methods has resulted in new types of damage caused in particular by the use of de-icing chemicals in snow and ice control and of maintenance equipment for snow removal. The increase in the use of anti-skidding tyres also creates serious problems causing the rapid abrasion of road surfaces.

As a follow up of the 1968-69 research Group on "vehicle corrosion and de-icing chemicals", this working party will concentrate solely on damage to road pavements as mentioned above, without considering bridges and allied road structures.

The group of experts will first review all problems arising in this context (relating to different methods of maintenance and the different types and causes of damage). The group should then proceed with an analysis of the state-of-the-art in each specific subject.

The resulting report will include the conclusions of the Group and delineate, in particular :

- the economic implications of winter damage ;
- detailed recommendations ;
- subjects for future research.

Reporting date : April, 1971

Expected number of meetings : three meetings.

Initial background paper : to be prepared under the responsibility of the Delegate for Germany.

2. ROAD SAFETY RESEARCH

2.1 Research Group S4 : Scientific Evaluation of the Effectiveness of Safety Campaigns

Terms of Reference

Little research has been conducted on the effect of safety campaigns and the efficiency of mass communication techniques with regard to road safety. While many countries are bound to implement vigorous road safety programmes, there is a definite need for a scientific and well-founded approach to explore the value and the efficiency of mass media techniques ; (TV (flashes), radio, newspapers, driver education programmes, school safety programmes, enforcement measures) with special attention to their limitation and public acceptability.

The aim of the Group will be :

- (a) to take stock of research carried out in the various countries and propaganda measures applied to road safety ;
- (b) to define methodological approaches and future research on experimental procedures by which the various means of mass communication can be evaluated :
 - assessment of attitudes to and points of view on road safety,
 - use of psychosociological techniques in the choice and analysis of topics to be used in safety campaigns ;
- (c) to assess effects, limitation and efficiency of the various media and the results of any research experiments conducted ;
- (d) to determine urgent research needs and proposals for future national or co-operative research on a strictly scientific basis.

Reporting date : October, 1970.

Expected number of meetings : one five-day meeting and possibly one final two-day meeting.

Initial background paper : to be prepared under the responsibility of the Delegate for Canada.

2.2 Research Group S5 : Road Safety at Junctions in Urban Areas

Terms of Reference

About 40-60 % of the total road accidents occur at junctions. Statistical data show great differences in accident potentials between various types and classes of junction. Highway and traffic engineering counter-measures have been applied to identify and eliminate high-accident locations and to reduce accident frequencies and severity at intersections.

Research in this field is being conducted in several countries and the Group will therefore start with a critical evaluation of the efficiency of safety measures presently applied, including an assessment of their cost/effectiveness.

The group will then concentrate on techniques and methods in research to approach the general problem of road safety at junctions both from an engineering point of view (traffic flow and traffic control, geometric design and layout) and in particular from the viewpoint of driver and pedestrian behaviour (perception and decision-making). The Group's report will define the major problems on which future research is urgently needed and include proposals on co-operative research programmes.

Reporting date : October, 1971

Expected number of meetings : three meetings in 1970.

Initial background paper : to be prepared under the responsibility of the Delegate for France.

3. ROAD TRAFFIC RESEARCH

3.1 Research Group T3 : Optimization of Bus Operation in Urban Areas

Terms of Reference

In congested urban areas, one of the main objectives is to optimize the people-moving capacity of the road network. Under these premises, methods and systems have to be implemented in order to reduce the considerable disparities in transport conditions for various types of road user, and particularly, to improve the quality of bus service such as by increasing operating speeds of buses and optimizing bus operation in general.

In accordance with the proposal of the OECD Consultative Group on Transportation Research, the Group will focus their work on a review and a critical appraisal of existing systems and techniques including cost/benefit comparisons, and set the priority subjects for future national or co-operative research.

Within the general context of area traffic surveillance, factors and effects of the various schemes in use - i.e. reserved bus lanes, priority at traffic lights - will be investigated in order to arrive at proposals for further research on traffic flow and levels of service of both buses and individual traffic and roadside development in urban areas, as well as to define the scientific basis for socio-economic studies and legal considerations.

Reporting date : April, 1971.

Expected number of meetings : four meetings.

Initial background paper : to be prepared under the responsibility of the Delegate for the United Kingdom.

3.2 Research Group T4 : Road Design Parameters and
Traffic Flow on Single Carriageways
outside Built-up Areas

Terms of Reference

In terms of mileage, two-lane, two-way roads constitute a majority of total national road networks and total travel performed.

In the interest of economics and traffic safety, it is indispensable to undertake research on the relationships between speed/flow (capacity) and road design characteristics in order to arrive at well-founded and optimal procedures in defining highway, traffic engineering, and road safety measures.

The scope of the Group will comprise an evaluation of research on speed/flow (capacity and service volume) relationships with regard to road design factors on an international basis without considering intersections, but including the important concepts of safety and driver convenience within the general traffic safety context.

The principal objectives of this Group will be to determine research methodologies and techniques (including measurement techniques) and promote future research on specific subjects of high priority in this field.

Reporting date : October, 1971.

Expected number of meetings : three in 1970.

Initial background paper : to be prepared under the responsibility of the Delegate for the United States.

4. SYMPOSIUM ON QUALITY CONTROL OF ROAD MATERIALS

Terms of Reference

With the development of statistical methods and their increasing application in quality control of road pavements, researchers, engineers, and administrators need a general overall view and a comprehensive and thorough evaluation of existing and proposed methodological approaches in the various countries.

The principal subjects at the Symposium will be :

- A. Application of Statistical Methods in Quality Control
 - methods of sampling
 - systems of statistical control.
- B. Resultant Necessary Alterations for the Strategy of Measurement and Testing Procedures.
- C. Alterations in the Operation of Quality Control.

The Scientific Committee to be set up will establish the details of the programme for the Symposium.

Date : October, 1970, in France.

Scientific Committee : to be composed of Delegates from France, Germany and United Kingdom.

Expected number of preparatory meetings : two meetings.

ANNEX II

ESTIMATION OF THE COST OF THE PROGRAMME

I. COMMENTS OF THE STEERING COMMITTEE

1. Second State of the Initial Programme

In accordance with Article 3(b) of the Decision of the Council [C(67)132], the Steering Committee for Road Research prepared its second Programme of Work for submission to the Council. This Programme covers the period of 12 months (from 1st January, 1970, to 31st December, 1970). The activity foreseen under the 1970-71 Programme is similar to that undertaken in the Programme for 1968-69 and may be considered as the second stage of the Three-year Programme adopted by the Council in the document [C(68)717].

2. Operation of the 1970 Programme

The Steering Committee emphasizes that they had not discussed in detail the budgetary implications of their 1970-71 Programme before presentation to the Council but nevertheless had noted the statements of the Secretariat regarding the effect which the salary increases, recently approved by the Council of the OECD, would have on the extent of budgetary spending. The Steering Committee reminds the Council that the method of repaying Part I of the OECD Budget for the general costs of programmes under Part II of the Budget was altered in 1968 after a budgetary limit of Frs. 500,000 had been proposed; although the OECD Budget Committee has agreed to cover these costs with a lump sum in 1969, this change in procedure has already brought about an increase in general costs for 1968-69 which has forced the Steering Committee to reduce by 15-20% the scope of the co-operative work initially envisaged.

The Steering Committee therefore stresses that it is important that the general revision of salaries in 1969 and the increase now foreseen in reimbursing Part I of the OECD Budget have no further repercussions upon its Programme and asks the Council to regard the budgetary ceiling of Frs. 500,000 per year as an indication of the amount of activity which was considered desirable as an annual undertaking at the time of adoption of the Three-year Programme, viz, in July, 1968.

3. Proposals of the Steering Committee

In order to be able to operate a programme of co-operation on the lines of that undertaken in 1968-69, the Steering Committee considers that it is relevant to propose the following points:

(i) Meetings

- a. The Steering Committee proposes that one of its plenary meetings be held at OECD Headquarters, the other being held at the same Laboratory as the Symposium, but that meetings of the six temporary Groups should take place in Member laboratories, where accommodation for meetings would be provided free. This procedure, which was approved in principle by the Council in its 1968-69 Programme, enables researchers to benefit fully from co-operative work, to visit installations and inspect equipment at the various laboratories, to participate in experiments carried out at meetings and to be aware of the viewpoints of national researchers not directly associated with co-operative work.
- b. Meetings of the Research Groups would, as far as possible, be grouped in order to reduce to a minimum the travelling expenses of the Secretariat and the interpreters.

(ii) Translations

Taking into account the scale approved by the OECD for the payment of translation work, and in order to avoid an unnecessary increase in the cost of operating the Programme, translations will for the most part be undertaken by the laboratory staff in the Member countries. A global sum of Frs. 38,000 for 1970 has been foreseen, through letters of invitation, in order to cope with translation work which can not be undertaken by the laboratories.

(iii) Permanent staff

The Steering Committee recalls that the putting into effect of its Programme depends essentially on the permanent staff responsible for the work of the Secretariat. It draws to the attention of the Council the fact that it has proposed, under the section "Secretariat", the upgrading of the post of Head of the Secretariat to a post of Grade A5 and urgently requests that this proposal be accepted because of the responsibilities of the holder of the post.

Also, when preparing its Programme for 1968-1969, the Steering Committee considered that the Secretariat should consist of eight persons. However, for purely financial reasons, the Committee has been forced to propose that for an initial period which will serve as a trial period, the Secretariat be reduced to seven members. The Steering Committee does not at this stage consider it expedient to propose the recruitment of an eighth member of staff but would indicate to the Council that the operation of its 1968-1969 Programme - and in particular the International Road Research Documentation - has been affected by this reduction in staff.

(iv) Technical secretariat

As in 1968 and 1969, the technical secretariat for the Research Groups and the preparation of the Symposium will be provided free of charge by the national experts participating in the work. Some travel expenses for experts acting as technical secretariat may, exceptionally, be attributed to the budget of the Programme for Road Research; also the remuneration of consultants (a total of 25 days in 1970).

II. IMPLEMENTATION OF THE PROGRAMME 1970

1. Personnel of the Secretariat

- a. Head of Secretariat (Grade A5)*
Her Assistant (Grade B3)
- b. Administration of the Documentation scheme
 - 1 Administrator (Grade A2/3)
 - 1 Shorthand Typist (Grade B3)
- c. Administration of the six Research Groups
 - 1 Administrator (Grade A2/3)
 - 1 Assistant (Grade B4)
 - 1 Shorthand Typist (Grade B3)

LIST OF ACTIVITIES

A. STEERING COMMITTEE

Two meetings of the Steering Committee (spring and autumn), one of three days at OECD Headquarters; the other of three days also, at the same Laboratory as the Symposium mentioned under (ii) below (in France). To be prepared and organised by the Secretariat at OECD Headquarters. Interpretation.

B. RESEARCH

(i) Six Research Groups

Sixteen meetings of two days each in a participating Laboratory, the meetings to be grouped two by two. One meeting of 5 days in Paris. (Taking budgetary considerations into account, about a quarter of these meetings will be held in a French Laboratory in Paris.) Interpretation by OECD. Seating accommodation to be provided free.

Preparatory work and administration by the permanent Secretariat with non-remunerated technical help.

(ii) Symposium

Preparation and organisation by the Secretariat of a three-day Symposium to be held in France. Interpretation to be provided by OECD. Conference hall facilities to be provided free of charge.

C. INTERNATIONAL ROAD RESEARCH DOCUMENTATION

Four meetings of the Operational Committee to be prepared and organised by the Secretariat. The meetings, of 3-4 days each, will be held as follows: two in Paris, one in London and one in Cologne. Conference hall facilities to be provided free of charge. Experts' travel expenses to be borne by the Programme for Road Research (a total of 16 separate European journeys of 3-4 days each. Interpretation to be provided by the host laboratories.

Fifteen days of service by specialised consultants.

Twelve European missions by Experts, of 2½ days each.

Work to be organised and supervised by the permanent Secretariat.

D. PUBLICATIONS

Four publications in the series "Road Research", of about 120 pages each or a total of about 480 pages in each language.

E. VARIOUS

- (i) 28 missions of 2 days each by the Secretariat, to take place in Europe. (Steering Committee: six missions; IRRD: ten missions; Research Groups: twelve missions). Possibly one mission of 10 days to the United States. Travel expenses and daily subsistence rate.
- (ii) Translation (to be undertaken upon receipt of formal letter of invitation from OECD). Global sum of 38,000 francs.
- (iii) Reproduction of working documents by the OECD services: 3,500 pages x 60.
- (iv) 25 days of consultants' services for the work of the temporary Research Groups.

道 路 研 究 計 画

1970年計画(抄訳)

1. この「道路研究における協力計画」は、1969年4月の運営委の指示に従って作成したものである。
2. 運営委の指示により、事務局はこの計画をBureauに提出し、Bureauは1969年6月2日会合を開いて、これを承認した。
3. ここに添付する「1970年計画」は、「計画開始に関する理事会決定」[C(67)132 (Final)]第3条により、「研究協力委員会」に、その意見を求めるため、提出する。この計画は、研究協力委の意見を付して、後にOECD理事会に提出して、その承認を求める。
4. 1968-69年道路研究計画による各研究グループの作業経過を載せた付録Ⅲは別に発行する予定である。

道路研究1970年度計画

1. 道路研究運営委員会は1969年4月の会合で、1970年に実施すべき事業計画の目的と詳細とに関して意見を交換した。その結果、既定の三カ年計画の方針、1968年7月理事会に提出した方針に従って協力の努力をすることになった。

A 運営委員会

2. 1968年10月と1969年4月の会合で、運営委員会に次のことをも行なわせることにした。
 - (i) 臨時研究グループと実施委が提出する報告書を検討して、道路の研究と文書編集関係の協力活動の管理・調整の責を負う。
 - (ii) 委員会の各委員が、各自の経験、計画及び国の優先順位に関して意見を交換する場をつくる。1970年4月道路建設に関する対策会議を開く。
3. 委員会の第一次計画で設けられた7臨時研究グループは、1969年結論に達し、この種の活動を継続するため二者もしくは三者以上の協力契約が締結されるであろう。恒久的な組織をつくることは避けるが、委員会は計画の検討・実施に貢献した加盟国には、こういう契約を締結するとき、また研究の結果結論に達したときには、その都度これを知らせる。
4. その他、委員会は、今後の計画の優先順位を決定する規準を定めるため、科学的に価値あるすべての方法を採用するようになりたい。これに関して加盟各国の助言を得たい。委員会と、他の国際機関との仕事の重複をさけるため、道路研究に関することを扱っている国際機関、特

に下記の機関とは、仕事の上で連絡をとることにした。

- 国際道路連盟 IRF
- 世界保健機関 WHO
- 欧州経済委員会 ECE
- 欧 州 会 議
- 欧州運輸相会議

これらとは、事務局は常に連絡をとる。

5. 委員会はさらに、今後の計画の優先度を評価する標準を決定するために、学問的に価値のあるすべての研究計画方法の使用を奨励するよう提案し、これに関して加盟各国の意見を求める。

B 協 力 研 究

I 1970年度計画の目的

6. 1968-69年計画で設置された七つの研究グループの得た結果を検討したところ、単に経験を交換したり、報告書を検討したりするだけでなく、もつと次元の高いことを目的として定める必要があることがわかった。各グループ（その成果は付録Ⅲに示してある）は、大体順調に仕事を運んだ。幾つかのグループは国の、もしくは国際機関の実施する計画に対する詳細な勧告を決定した。

7. 委員会は研究グループの指針を作成するよう事務局に指示した。

8. 1970年度計画では多くのグループは、次のことを行なう。

第1 最重要な問題に関して技術専門家たちが国際レベルで到達した結論を運営委に知らせること。

第2 それらの問題を早急に解決するために実施すべき計画案を作成すること。

これらの計画は特に次の事項を含むこととする。

- (i) 検討すべき主要研究事項の概要
- (ii) 研究計画の作成・実施に必要な手続きと方法に関する提案

例えば

- 国の行なう手続き
- 二つ、もしくはそれ以上の国の研究機関の間の協力

- (iii) 研究の分担に関する示唆

（各国がどんなことに特に関心があるかを考慮したもの）

- (iv) OECD の行なう計画の実施に当ることを希望する研究所の明示

- (v) 共同研究の成果交換の提案

9. 同時に、1970年中に他の方法も運営委が考える。特に、困難な研究問題に関しては会期

5日間の会合を開いてエキスパートたちが、道路の安全、運動の安全、運動の効果評価に関する加盟国の行なつた、研究の成果を分析して取りまとめる。この会合の結果に基づき、その結論を検討したうえで、運営委は、道路安全の分野でマスメディアの効果の評価を目的とする科学的方法の検討を、研究グループに任せておくのがよいかどうかを決める。

10. 1970-71年に設ける臨時研究グループに関しては、委員会は、事務局に任せる準備作業が多くなるから、6グループに減らすことが適当と考える。

11. 研究グループは次の通り。その目的は付録Iに記す。

- a) 道路建設：2グループを設ける。一つはコンクリート橋デッキの防水性研究グループで、
他は冬期における道路破損を研究するものである。さらに、1970年10月、
道路資材の品質管理に関するシンポジウムをフランスで開催する。
- b) 道路の安全：道路安全運動の効果の科学的調整を研究するグループと市街地交差点の事故
を研究するグループ。
- c) 道路交通：市街地バス利用を図る研究グループと二方向交通道路のサービス特性を研究す
るグループ

12. 道路の安全と交通の研究計画は、自動車の普及した国で、やがて共通な方針を取ることが必要となる分野に向けた。それらの方針を学問上からみて健全な基礎にたつて決めるためである。運営委の選んだ研究課題は欧州運輸相会議（ECMT）事務局に知らせた。課題の幾つかはECMTが多年研究し、方針を定め行政措置をとつたものであつた。このことは行政及び政策関係の研究成果の早期利用の助けとなるう。

○ 国際道路研究の文書編集機関（IRRD）

I 1970年計画の目標

13. 国際道路研究編集機関（IRRD）は道路研究の情報交換を行なう組織で、1965年1月以来OECD内で活動してきた。この組織は、加盟国すべてに世界各地の道路研究の文書と、道路研究の進歩とに関する完全かつ総合的情報を提供しようとするものである。加盟国にお願いすることは文書を検べる、その国の研究の情報を集めること（場合によつては適宜非加盟国の文献をも調べる）及び「情報資料」と「研究計画」とを作成することだけである。

14. 1968-69年計画で、運営委はIRRDの運営を調査し、その長所、短所、ならびに各国にIRRDシステムを適用、利用する場合の諸問題を明らかにすることができた。この調査の結果、委員会は、IRRDが

- 加盟国の要望にそい、
- 同じ分野または関係ある分野の他の編集機関と協調を保ち、
- 記録しておくべき事項が毎年増加してゆく現状 —

1965年には2,000~3,000、現在では10,000~12,000、何年か後には一年に数万事項にもなりそうである——に対処する。

ためにIRR Dのとるべき措置を指摘し探るであろう。

15. 1970年の計画は、IRR Dをどう運営してゆくか、それを今後どう発展させるかに主力を注ぐものであるが、次の6部門に分かれる。

- (i) IRR D実施委員会は、IRR Dに関する事項のための運営委代表を議長として、それぞれ英・仏・独語で作成する文書センターの間の協調の実をあげられるようにし、またこの協力組織に絶えず生じる技術的な問題の解決を図る。
- (ii) 米国の道路研究情報局(HRIS)との現在の協定を強化して、IRR Dの組織をHRISのそれと一層関連させる。
- (iii) 運営委は現在実施中の研究計画に関する情報の交換に全力をあげる。こういう情報交換の必要なことは、道路研究の各分野における技術の現状を調査しているいろいろなグループも強調している。
- (iv) 運営委は、IRR Dの基本的方針を変えることなく、現在の組織を改善することができるかどうかをも検討する。
- (v) もしそれが便利だとすれば、運営委は過去3カ月のすべてのIRR Dの文書を載せた「情報季報」を発行しよう。これは販売する。独立採算がとれなければ発行しない。
- (vi) 運営委としては、今後もIRR Dの長期的発展を考えるつもりである。特に道路研究に関する科学的情報の扱いに、加盟各国がもととコンピューターを利用する準備を考えている。

II 予定措置

16. 実施委員会

- この委員会は、実際に協力をするため、またIRR Dの運営中に生じる技術的諸問題を解決するために、定期的に関く、委員会の会合は、三つのセンターのうちの一つで順番に関く。これは起きた問題を関係センターで即座に解決するためである。
- 米国HRISから1名が実施委の会合に参加する場合もある。これはIRR DとHRISの間の協力をさらに強めるためである。
- 実施委が加盟国で進んでいる研究についての情報の蒐集に関する問題を扱うとき、IRFの代表を討議に招待する場合がある。これもまた両機関の協力をすすめるためである。
- 「宝典」の第3改訂版は1969年に作業を終り、1970年から使用することになる。道路研究のすべての部門(建設・安全・交通)をさらに同じような形式のものとする計画である。

17. 米国HRISとの関係

米国のHRIS(道路研究情報サービス)とIRR Dとは道路研究記録編集をする世界にお

ける二大機関で、1966年以来協力関係を続けてきた。今後も一層これを強める。

18. 現在行なっている研究

現在はBPR(米国公道路局)、HRIS、IRF等の基準と必ずしも一致していないので、運営委は1970年には、運営法、蒐集する情報の選択基準を、これらの機関のものと一致させる。

19. 現在の方式の改善

1970年に、文書作成方式(ペーパーシート、マイクロシート、マイクロフィルム、コンピュータテープ等)を改めることを運営委は提案する。

これはIRRDの情報をさらにうまく知らせるという問題を解決するためである。また、現在の方法を改める方が経済的かつ有効であるかどうかの研究も認めるようにしたい。

20. 研究者へ直接情報提供

運営委は1969年に、情報を直接研究者につたえることを研究した。このために、IRRD資料を季刊誌の形で加盟国・非加盟国の関係者に送ることを考えている。ただし、これは独立採算のとれるものとする。

21. 道路研究文書編纂の長期的発展 — コンピューターの使用

委員会は道路研究の学術資料の処理にコンピューターを使用することから各国に生じる問題に対処する用意を整えるつもりである。

1970年に、コンピューターを使用している国々の研究所の代表の間で意見を交換するための特別グループを設ける。

こうした準備的作業をすれば、第1期道路研究計画の終る1971年7月に理事会に出される提案に役立つであろう。

付 録 I

研究グループへの委託事項

1. 道路建設の研究

1.1 研究グループG3：鉄筋コンクリート及びPSコンクリートの橋床の保護

委託事項

コンクリート橋は一般に防水被覆すべきものと考えられている。

コンクリートは多孔質であるし、また、ひびや部分的欠陥（たとえば組立ジョイント）が生じたりして、水が浸透して鉄筋を腐蝕する恐れがある。

研究グループは各国で現在用いられている防水法を調査し、その結果と今後の研究方針について勧告する。

報告期限：1970年12月

予定会合回数：3回

初めの討議基礎資料：英国代表の責任で作成

1.2 研究グループG4：道路舗装の冬期破損

委託事項

雪や氷の処理に溶氷薬品を投じたり、除雪に維持機械を用いたりするため、また、滑り止めタイヤが増加したため、近年、冬期には舗装のいたみがひどくなった。

1968年—69年にひきつづいて、この研究をする。橋や関係道路構造物は除外する。

報告期限：1971年4月

予定会合回数：3回

初めの討議基礎資料：ドイツ代表の責任で作成

2. 道路の安全の研究

2.1 研究グループS4：安全運動の効果の学術的評価

委託事項

(a) 道路の安全に関して各国で行なってきた研究を調査する。

(b) 各種マスコミを評価する方法の研究とその実験的方法の研究等

報告期限：1970年10月

予定会合回数：5日会期の会合を1回、他に2日会期の最終会合を開くかもしれない。

初めの討議基礎資料：カナダ代表の責任で作成

2.2 研究グループS5：都市の交差点における道路の安全

委託事項

技術面（交通流と交通コントロール、道路の設計と配置）からも、また特にドライバーと歩行者の動作の面からも研究する。

報告期日：1971年10月

会合予定回数：1970年に3回

初めの討議基礎資料：フランス代表の責任で作成

3. 道路交通研究

3.1 研究グループT3：都市部におけるバス運営の改善

委託事項

費用と効果との比較、その他現在行なわれている方式を検討、批評し、今後各国でまたは国際的協力によつて研究すべき事項の優先順位を定める。

バス専用車線、交通信号灯、優先等について、各種の要素効果を調査し、バスと他の自動車の交通流、都市における道路隣接地の開発に関する提案をし、また社会経済学的研究と法規との根底を明らかにすること。

報告期日：1971年4月

予定会合回数：4回

初めの討議基礎資料：英国代表の責任で作成

3.2 研究グループT4：市街地以外の2車線（各方向1車線）道路の設計要素と交通流

委託事項

道路の長さから見ると、2車線、2方向の道路が各国の道路の大半を占め、また自動車の走行としても最大量である。

スピードと交通流の関係（交通容量）及び道路の設計の研究は、道路、交通工学、道路安全の最もよい方策をたてるのに不可欠である。

道路設計の面からみたスピードと交通量（交通容量とサービス量）の関係を検討する。交差点は考えないこととするが、普通の意味で交通の安全と、ドライバーの利便ということとは考慮する。

このグループの主要目的は研究の方法と技法（測定法を含む）を決定し、優先度の高い事柄についての今後の研究を推進するにある。

報告期日：1971年10月

予定会合回数：1970年に3回

初めの討議基礎資料：米国代表の責任で準備する。

4. 道路資材の品質管理シンポジウム

委託事項

統計法が発展し、道路舗装の品質管理にそれが応用されることが多くなつたので、研究者、技師、行政官は全般的見解と各国で現在行なわれている。また行なわれようとしている方法論的研究の総合的かつ徹底的評価を必要としている。

シンポジウムの主要課目は

A 品質管理における統計学的方法の応用

— 抽出法

— 統計管理の方法

B 測定及び試験に適用する場合に必要な変更

C 品質管理実施の際の変更

シンポジウムの詳細な計画は、設置されることになつている科学委員会が作成する。

期日：1970年10月、フランスで開催

科学委員会：フランス・ドイツ・英国の代表が構成

予定準備会合：2回

付 録 II

計 画 の 費 用 見 積 り

I 運営委の意見

1. 計画の第2段階

理事会決定第3条(b)により運営委は、理事会に提出するため、第2次実施計画を作成した。この計画は1970年1月1日から1970年12月31日までの12カ月間のものである。

1970-71年計画の内容は1968-69年計画のそれと同じようで、理事会が記録に採用した3年計画の第2段階と考えることもできる。

2. 1970年計画の実施

運営委は理事会に次のことを念のため申し上げる。

予算限度を500,000フランにする提案がなされてから、予算第2部による諸計画の一般費用のためのO E C D 予算第1部の支払い方法が変更された。O E C D 予算委は1969年にはこれらの費用を一括して出すことに同意したが、この手続き変更のため、すでに1968-69年一般費用が増加し、そのため、運営委は当初考えた協力の範囲を15-20%縮小せざるをえなくなつた。運営委は、俸給が改訂され、O E C D 予算第1部の支出が増加して、そのために、500,000フランと定められた予算に喰い込んで、これ以上活動が制限されることのないようにするのが重要と考える。

3. 運営委提案

(i) 会合

a 総会を1回はO E C D 本部で開き、もう1回はシンポジウムを開催するのと同じ研究所で開く。6つの臨時グループの会合は加盟研究所で開く。この場合施設は無料で提供するものとする。

b 事務局員及び通訳の旅費を節約するため、研究グループの会合はなるべくまとめて行う。

(ii) 翻訳

経費節約のため、翻訳はなるべく加盟国の研究所職員が行なう。研究所でできない翻訳が全世界で38,000フランかかると見込まれている。

(iii) 常勤職員

事務局の長の地位をA5級に上げることが提案されている。

1968-69年計画の作成のときに事務局員を8名とすべきであると、運営委は考えた。しかし、経済面から最初の試験期間中は7名とするより提案せざるを得なかつた。い

ま、その増員を提案するつもりはないが、1968-69年計画が7名という切りつめた人員で実施されたことを理事会に言っておきたい。

(iv) 技術局

1968年、1969年と同様、研究グループとシンポジウム準備のための技術局員としては、参加する各国のエキスパートが無料で奉仕する。特別の場合、エキスパートの旅費を例外的に道路研究計画の予算から支出することもありうる。コンサルタントの報酬(1970年に計25日)も同様とする。

II 1970年計画の実施

1. 事務局職員

a 事務局長(A5級)*

補 佐(B3級)

b 文書編集計画の管理

管 理 者 1名(A2/3級)

速記タイピスト 1名(B3級)

c 6研究グループの管理

管 理 者 1名(A2/3級)

補 佐 1名 (B4級)

速記タイピスト 1名(B3級)

* 運営委が格上げを要請した。

活 動 一 覧

A 運営委

運営委の会合は、春秋2回；1回はOECD本部で、他の1回（会期3日間）は下記(ii)に述べるシンポジウムと同じにフランスの研究所で開く。OECD本部で組織・準備。

B 研 究

(i) 6つの研究グループ

参加する研究所のいずれかで2日間会期の16回の会合、会合は2つずつ一緒にする。パリで5日間の会合。（予算の関係で、これらの会合の1/4ほどはパリにあるフランスの研究所で開く）通訳はOECDの会場は無料提供。

技術者の無報酬援助をうけて準備と管理は事務局が行なう。

(ii) シンポジウム

3日間のシンポジウムをフランスで開く。準備、組織は事務局、通訳はOECD。会議場は無料

C 国際道路研究資料編纂

実施委の会合は4回、事務局が準備、組織する。会合は各3～4日でパリで2回、ロンドンで1回、コロンで1回開く、会場は無料提供、エキスパートの旅費は「道路研究計画」が負担（各3～4日、計16日の欧州旅行）。通訳は開催地の研究所。

専門コンサルタントが15日間奉仕。

12の欧州エキスパート使節団、各2日半。

仕事は事務局が組織、監督する。

D 出 版

各冊120ページ、計480ページの『道路研究』4冊を各国語で発刊。

E その他

(i) 各2日の28使節団を欧州各地へ事務局から派遣（運営委：6使節団、IRRD：10、研究グループ：12）

米国へ10日間の使節団を送るかもしれない。旅費と日当。

(ii) 翻訳（OECDから正式依頼がきてから着手のこと）全世界で38,000フラン。

(iii) OECDが資料印刷3,500ページ×60

(iv) 臨時研究グループの仕事のためコンサルタントが25日間のサービス。

OECD Road Research

Programme for 1970

(Research Group)	(Name, Qualification)	(Address)
1. Road Construction Research		
1.1 Research Group C-3 Protection of Bridge-Decks in Reinforced and Prestressed Concrete	Tetsuo KUNIHIO Chief, Bridge Section Structure and Bridge Division Chiba Branch Public Works Research Institute Ministry of Construction	4-12-52, Anagawa, Chiba-shi, Chiba Japan
1.2 Research Group C-4 Winter Damage to Road Pavements	Saburo MATSUNO Chief, Pavement Section Road Division Chiba Branch Public Works Research Institute Ministry of Construction	"
2. Road Safety Research		
2.1 Research Group S4 Scientific Evaluation of the Effectiveness of Safety Campaigns	Minoru KOBAYASHI Research scientist, Traffic Safety Section National Research Institute of Police Science National Police Agency	6-3 Bancho Chiyoda-ku, Tokyo Japan
2.2 Research Group S5 Road Safety at Junctions in Urban Areas	Teruo YOSHIOKA Chief, Traffic Section Road Division Chiba Branch Public Works Research Institute Ministry of Construction	4-12-52, Anagawa, Chiba-shi, Chiba Japan
3. Road Traffic Research		
3.1 Research Group T3 Optimization of Bus Operation in Urban Areas	(The expert will be recommended by Ministry of Transportation)	

OECD Road Research

Programme for 1970

(Research Group)	(Name, Qualification)	(Address)
1. Road Construction Research		
1.1 Research Group C-3 Protection of Bridge-Decks in Reinforced and Prestressed Concrete	Tetsuo KUNIHIO Chief, Bridge Section Structure and Bridge Division Chiba Branch Public Works Research Institute Ministry of Construction	4-12-52, Anagawa, Chiba-shi, Chiba Japan
1.2 Research Group C-4 Winter Damage to Road Pavements	Saburo MATSUNO Chief, Pavement Section Road Division Chiba Branch Public Works Research Institute Ministry of Construction	"
2. Road Safety Research		
2.1 Research Group S4 Scientific Evaluation of the Effectiveness of Safety Campaigns	Minoru KOBAYASHI research scientist, Traffic Safety Section National Research Institute of Police Science National Police Agency	6-3 Bancho Chiyoda-ku, Tokyo Japan
2.2 Research Group S5 Road Safety at Junctions in Urban Areas	Teruo YOSHIOKA Chief, Traffic Section Road Division Chiba Branch Public Works Research Institute Ministry of Construction	4-12-52, Anagawa, Chiba-shi, Chiba Japan
3. Road Traffic Research		
3.1 Research Group T3 Optimization of Bus Operation in Urban Areas	(The expert will be recommended by Ministry of Transportation)	