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MICHIGAN TRANSPORTATION RESEARCH PROGRAM

Annual Report  
September, 1980

Highway Safety Research Institute  
The University of Michigan  
Ann Arbor, Michigan 48109

The opinions, findings, and conclusions expressed in this report are those of the authors, and do not necessarily represent the views of the Michigan Transportation Commission or the Michigan Department of Transportation.

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12. Sponsoring Agency Name and Address Michigan Department of Transportation Bureau of Urban and Public Transportation P.O. Box 30050 Lansing, Michigan 48909		15. Supplementary Notes MTRP is an organization composed of participants from Michigan's major universities and industry. MTRP advises the Bureau of Urban and Public Transportation and other elements of Michigan government on transportation problems, issues, and opportunities.	
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## I. Introduction

This report summarizes the activities and actions of the Michigan Transportation Research Program (MTRP) for the time period June 6, 1979, to September 30, 1980. Due to the significant reduction in funding for MTRP during this time period, activities were reduced to meetings of the Advisory Committee and the completion of a single study task. Two additional studies were completed with additional funding through amendments to the contract. None of the MTRP Ad Hoc committees or task forces met during this time period. (See Appendix I for a list of committees and committee members.)

## II. Program Activities

Three new members of the Advisory Committee were appointed by the Program Director with the concurrence of the Michigan Department of Transportation, Bureau of Urban and Public Transportation. The new members are Dr. Tapan Datta, Wayne State University; Dr. Sung Lee, Michigan Technological University; and Dr. Michael Rabins, Wayne State University. This action raised the total committee membership to twelve.

The Advisory Committee met four times: July 10, 1979 at The University of Michigan; September 19, 1979 at Michigan State University; November 29, 1979 at Wayne State University; and June 12, 1980 at Michigan State University.

The Bureau of Urban and Public Transportation (UPTRAN) developed a proposal to the U.S. Department of Transportation for matching funds for University Transportation Centers.<sup>1</sup> MTRP was requested to solicit proposal topics from MTRP participating universities to be included in this proposal. This was done, and a MTRP working group consisting of Doctors Hess, Lee, Rabins, Taylor, and Mr. Newland ranked the proposal topics in order of importance and recommended universities to conduct the research. These topics were included in the UPTRAN proposal and four of them were chosen by the UPTRAN Executive Committee for immediate funding from a special appropriation by the State Legislature. The contracts are summarized in Table 1.

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<sup>1</sup>As provided for in the Surface Transportation Act of 1979. This was enabling legislation. At this date, no appropriations have been made.

Table 1  
 University Transportation Research  
 Program (Michigan)  
 FY 1979-80

	<u>Title</u>	<u>Contract No.</u>	<u>Contractor</u>	<u>Amount</u>	<u>Duration</u>
1.	Transportation Energy Contingency Plan	79 2591	WSU	\$35,000	1-30-80 to 9-30-80
2.	Institutional Barriers to the Use of Public Transportation	79 2541	MSU	\$40,000	1-30-80 to 3-31-81
3.	Structural Integrity of Small Buses	79 2533	Mich. Tech. Univ.	\$72,054	1-30-80 to 3-31-81
4.	Urban and Inter- urban Transportation Needs vs. Demands of the Elderly	80 0482	WSU	\$120,000	7-2-80 to 1-21-82

Dr. David Cole<sup>2</sup> was invited to address the advisory committee during its July meeting. Cole reviewed the recently announced Federal-Industry-Universities joint program to develop new automotive technologies for implementation beyond 1990. He indicated that his office is taking a leadership role in organizing University of Michigan resources as a part of this overall multi-year multi-million dollar program. When this is accomplished, Cole indicated that he will seek to build a consortium involving talent from the other universities.

During the September and November meetings, committee members submitted suggested topics for inclusion in the UPTRAN FY 1980-81 program. The committee also developed a procedure for evaluating and ranking these topics. The committee members, working individually, ranked the topics and submitted them to the executive secretary who developed a consensus "vote." (See Appendix II for the resulting topics and their ranking.) The top fifteen topics were formally recommended to UPTRAN for its consideration by the Program Director in early January 1980. The MDOT Public Transit Research Review Committee selected four of the fifteen topics for funding in FY 1980-81 as part of the M-DOT "University Transportation Research Program." The topics will be funded only if matching non-State funds can be found. The topics are summarized in Table 2.

Table 2

University Transportation Research  
Program (Michigan)  
FY 1980-81

<u>Title</u>	<u>Submitted by</u>
1. Restraint Systems and Tie-Downs for Transportation of the Handicapped	The U of M
2. Inter-City Bus and Car Pooling	The U of M
3. Criteria for Expanding or Reducing a Transit Network	MSU
4. Energy Efficient Alternatives for Sustaining Tourist Travel in Michigan	The U of M

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<sup>2</sup>Director of the Office for The Study of Automotive Transportation, College of Engineering, The University of Michigan.

During the November meeting, Dr. Taylor indicated that he had conferred with Senator Carl Levin's staff and asked that the Senator contact Secretary Goldschmidt (U.S. DOT), to ask him to suggest matching funds sources within DOT, and apprise the Secretary of MTRP. As a result of this, the Senator sent correspondence to the Secretary.

Also during the November meeting, Dr. Hess proposed that the state funding for MTRP be supplemented by funds from the private sector in order to restore and sustain the levels of activity experienced during the first two years of the program. This would include reactivation of subcommittees, expansion of staff activity, the hiring of graduate students, and the funding of studies and assessments by consultants and other agencies. Hess indicated that the method for obtaining private funds would be through the existing development and fund raising activities of The University of Michigan. The committee members reacted positively and gave their endorsement unanimously. This development activity is currently underway.

During the meeting on June 12, 1980, Mr. Bud Thar, Executive Director of the Center for International Transportation Exchange (CITE), briefed the committee on the development and functions of CITE. The National Governor's Association (NGA) has embarked on the establishment of "Centers of Excellence" throughout the country for policy development and information exchange on matters of interest to the states. Besides CITE, five or six other centers are being established: Duke University in the subject area of public management; S. Florida University on services for the elderly; University of Arkansas on environmental and resource topics; and a center proposed for the University of Washington on fisheries and forestry topics. The centers will work to develop multi-state projects and to identify policy initiatives. CITE, in addition, will survey international experience in transportation that could be useful to the states and will provide meetings and forums where experience can be exchanged. Thar emphasized a need to bring to bear on federal policy the expertise in transportation that resides in the states, that he argued is collectively more than at the federal level. He noted that the roles of states are protected by the constitution and that interstate compacts are constitutional. As an example he described the interstate high-speed passenger rail system project being launched



by CITE. Consultants will be retained to survey the interested governors and lay out reasonable alternatives for each state that proposes to participate (primarily Great Lakes States). A study framework would be formulated that would describe the inputs needed from the states and the kind of model that should be used to develop a preliminary design for an overall rail network. The interested states will participate in the funding of the study. Therefore, CITE will function as a broker to develop studies and exchange information. It will do little research itself. The foreign exchange activities of CITE will be supported by the German Marshall Fund. A European exchange organization already exists, and CITE will become affiliated with it.

During the June meeting, Dr.'s Hess and Rabins briefly discussed meetings between the Presidents of The University of Michigan and Wayne State University and the Office of the Secretary of Transportation concerning possible funding to identify and foster activities that could bolster the state's economy during the transition of the automobile industry. It was felt that MTRP could play a logical role in organizing the universities to address this question. It was suggested that some of this federal funding should be used to fund MTRP directly. This suggestion was put before the Office of the Secretary of Transportation in July 1980 by the MTRP Program Director.

### III. Studies and Reports

The MTRP contract was amended to provide additional funds to the Highway Safety Research Institute of The University of Michigan to perform a study at the request of UPTRAN. The purpose of the study was to develop criteria that could be used by UPTRAN management in the selection of projects for inclusion in the UPTRAN annual program, and to select among proposals and grant applications for state funds to local transit agencies, study contractors, equipment suppliers, etc.<sup>3</sup> As recommended in the study report, an UPTRAN appeal procedure will be developed for rejected applications and proposals, and a procedure will be established

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<sup>3</sup>"Public Transportation Interim Selection Criteria and Management Objectives--Final Report," UM-HSRI-79-56, August 1979, by the Michigan Transportation Research Program, Highway Safety Research Institute, The University of Michigan, Ann Arbor, Michigan 48109. Principal Investigator: Leonard E. Newland. An abstract of this report is contained in Appendix III.

describing the development, use, and annual review of the objectives and criteria recommended in the report. A study to accomplish this is being formulated and UPTRAN will issue a contract for this work in the near future.

A transportation energy "white paper"<sup>4</sup> was published during this time period. A large printing was desired by the Advisory Committee for distribution to individuals in state government and public and private sectors. Funds for reproduction were provided by the Michigan Energy Administration, Michigan Department of Commerce, which also assisted in the distribution of the white paper.

In June, 1980, the MTRP was requested to coordinate a study conducted by the Highway Safety Research Institute and the Industrial Development Division of The University of Michigan, and the existing contract was amended to that effect. The study, requested by the Bureau of Urban and Public Transportation, involved an assessment of the feasibility of manufacturing light rail passenger vehicles and other rail passenger vehicles in Michigan. The study consisted of two parts: (1) an analysis of the market for light rail and rail passenger vehicles in North America which included the identification and assessment of factors which influence that market and market projections for five and ten year intervals; and (2) an analysis of the economic development opportunities associated with the manufacture of rail passenger vehicles in Michigan which included an assessment of the rail passenger vehicle manufacturing industry world-wide and the advantages for a passenger rail vehicle manufacture to locate a production facility in Michigan. This study was motivated by the Southeastern Michigan Transportation Authorities (SEMTA) plan to develop a region-wide transit system including a light-rail vehicle subway and surface link along Woodward Avenue in Detroit, Michigan. An interim report<sup>5</sup> was published on July 31, 1980. A final report will be published on September 30, 1980.

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<sup>4</sup>"Coping with Energy Limitations and Transportation: Proposals for Michigan." A public policy discussion paper with recommendations for state action. UM-HSRI-79-13, Michigan Transportation Research Program, Highway Safety Research Institute, The University of Michigan, Ann Arbor, Michigan 48109. April 1979. H. Koenig, Michigan State University; R. Kaufman, Western Michigan University; et al. An abstract of this report is contained in Appendix III.

<sup>5</sup>See Appendix III for an abstract of this report.

#### IV. Future Activities

A committee member has urged that the Advisory Committee turn its attention to the development of one or more consortia of Michigan universities to pursue federal funding for transportation research projects in Michigan. In this regard, the Advisory Committee will develop joint university proposals under the U.S. Department of Transportation University Research Program during the Fall of 1980.

Dr. Hess and Mr. Newland will continue their activities to develop gifts and grants from foundations, donors, and Michigan's private sector in order to increase the MTRP budget and its activities.

Other activities will be undertaken as developed by the Advisory Committee, within the constraints of the existing budget.

## APPENDIX I

### THE MICHIGAN TRANSPORTATION RESEARCH PROGRAM COMMITTEES AND MEMBERSHIP

#### Director

Dr. Charles G. Overberger, Vice President for Research,  
The University of Michigan

#### The Michigan Transportation Research Program Advisory Committee

Dr. William C. Taylor, Chairman, Civil Engineering, 281 Engineering  
Bldg., Michigan State University, East Lansing, Michigan 48824  
(Co-Chairman) 517-355-5107

Dr. Robert L. Hess, Director, Highway Safety Research Institute,  
2901 Baxter Road, The University of Michigan, Ann Arbor,  
Michigan 48109 (Co-Chairman) 313-764-6504

Dr. Robert W. Kaufman, Director, Institute of Public Affairs, Western  
Michigan University, Kalamazoo, Michigan 49008 516-383-3983

Dr. James A. Kent, Dean, College of Science & Engineering, E108  
University of Detroit, 4001 West McNichols, Detroit, Michigan 48221  
313-927-1216

Dr. Tapan K. Datta, Chairman, Department of Civil Engineering,  
667 Merrick, Wayne State University, Detroit, Michigan 48202  
313-577-3793

Mr. Chris M. Kennedy, Manager, Auto Safety Relations, Chrysler Corp.,  
Box 1919, Detroit, Michigan 48231 313-956-3953

Dr. William D. Drake, Professor of Urban & Regional Planning, School  
of Natural Resources, 2028 Dana Building, The University of Michigan,  
Ann Arbor, Michigan 48109 313-761-1357

Mr. Alvin E. Marshall, Environmental Research Office, Ford Motor Co.,  
Suite 704 East, Parklane Towers, 1 Parklane Blvd., Dearborn, Michigan  
48126 313-337-7535

Mr. George T. Burton, Jr., Director, Automotive Program Management,  
Bendix Research Laboratories, Bendix Center, Southfield, Michigan  
48076 313-352-6095

Mr. Henry F. McKenney, Research Scientist, Environmental Research  
Institute of Michigan, 3300 Plymouth Road, Ann Arbor, Michigan 48105  
313-994-1220

Dr. Michael J. Rabins, Chairman, Mechanical Engineering Dept., 667 Merrick,  
Wayne State University, Detroit, Michigan 48202 313-577-3843

Dr. Sung Lee, Director, Keweenaw Research Center, Michigan Technological  
University, Houghton, Michigan 49931 906-487-2750

Transportation for the Mobility-Limited

Dr. James A. Kent, Chairperson  
University of Detroit

Dr. Tapan K. Datta  
Wayne State University

Mr. Thomas McDonald  
Chrysler Corporation

Dr. J. Raymond Pearson  
The University of Michigan

Ms. Nancy Kidney  
Macomb County Essential  
Transportation Service

Dr. Julius S. Cohen  
The University of Michigan

Ms. Jeanne Fitzgerald  
Wayne State University

Dr. Leon A. Pastalan  
The University of Michigan

Mr. Kunwar Rajendra  
Lansing Planning Department

Ms. Euline McCorkle  
Ann Arbor Center for  
Independent Living

Bus Evaluation

Mr. Herb Wood, Chairperson  
Chrysler Corporation

Dr. Ernst N. Petrick  
U.S. Army, TARADCOM

Dr. Naeim Henein  
Wayne State University

Mr. Richard N. Winston  
American Motors General

Mr. Charles Kuehl  
Southeastern Michigan  
Transportation Authority

Transportation & Urban Demography Task Force

Dr. William C. Taylor, Chairperson  
Michigan State University

Mr. Daniel L. Jones, Jr.  
Systems Engineering SEMTA

Mr. Gary Krause  
Market Research & Planning SEMTA

Dr. Michael J. Rabins  
Wayne State University

Dr. Robert Smock  
The University of Michigan  
Dearborn

Dr. Barbara B. Murray  
The University of Michigan  
Dearborn

Dr. Eugene D. Perle  
Wayne State University

Mr. George N. Skrubb  
Oakland County Administrative

Energy Efficiency

Dr. Robert W. Kaufman, Chairperson  
Western Michigan University

Dr. Donald E. Cleveland  
The University of Michigan

Mr. Henry McKenney  
Environmental Research Institute  
of Michigan (ERIM)

Dr. Herman E. Koenig  
Michigan State University

Demonstration & Development Program

Dr. Robert L. Hess, Co-Chairperson  
Highway Safety Research Institute

Dr. William C. Taylor, Co-Chairperson  
Michigan State University

Mr. George T. Burton, Jr.  
Bendix Research Labs

Hybrid-Electric Vehicle

Dr. James A. Kent, Chairperson  
University of Detroit

Mr. George T. Burton, Jr.  
Bendix Research Labs

Dr. Gene E. Smith  
The University of Michigan

APPENDIX II

MTRP-RECOMMENDED TOPICS FOR THE UPTRAN FY80-81

RESEARCH AND DEMONSTRATION PROGRAM

<u>Recommended Topics</u> (in descending order of importance)	<u>Submitted by:</u>
1. Restraint systems and tie-downs for transportation of the handicapped	U.M.
2. Traffic flow improvements (to increase transportation energy efficiency)	Chrysler
3. Inter-city bus and car pooling	U.M.
4. Criteria for expanding or reducing a transit network	M.S.U.
5. Transit demand elasticity as a function of service reliability	W.S.U.
6. Economic impact on Michigan industries and highways due to changes in truck weight and dimensions	W.S.U.
7. Estimation of the sensitivity to rising energy costs of transit trip demand and trip length	W.S.U.
8. Energy efficient alternatives for sustaining tourists travel in Michigan	U.M.
9. Evaluation of alternative multi-modal transportation systems for movement of rural freight	Mich. Tech. Univ.
10. Future scenarios for the development of the Michigan Public Transportation System	U.M.
11. A monitoring system to measure the effectiveness of state transportation services	U.M.
12. Impacts of diversion of freight to trucks resulting from railroad abandonment and rail service deterioration	W.S.U.
13. Planning for intermodal rural transportation	W.S.U.
14. Use of schoolbuses for public transportation-- potentials and impediments	W.S.U.
15. Institutional issues on the use of railroad rights of way for public transportation in Michigan	W.S.U.

APPENDIX III  
Abstracts of Study Reports  
"Public Transportation Interim Selection Criteria  
and Management Objectives"

Leonard E. Newland  
August 1979

Interim management objectives and project selection criteria were developed for the Bureau of Urban and Public Transportation (UPTRAN), Michigan Department of Transportation. The objectives and criteria were suggested for UPTRAN review, and were based upon an analysis of pertinent state legislation, comparable federal practice, and existing UPTRAN practice. The criteria are used to evaluate proposed capital, operating, research, and demonstration projects, and to evaluate proposals and grant applications to conduct these projects. An overall management programming process was proposed which includes the use of the selection criteria and objectives, and relates them to the Bureau's annual budget formulation process.

Recommendations were made with regard to the implementation and use of the criteria, and the formulation of the resulting management procedures and project programming process.



"Coping with Energy Limitations in Transportation:  
Proposals for Michigan "

R. Kaufman, H. Koenig, et al.

April 1979

Abstract:

The transportation energy dependence of Michigan's economy and major industries (auto manufacturing and tourism) is discussed and quantified. For the balance of this century the real cost of energy will rise and its availability will decline. "Net energy" gains are expected to decline as well (the difference between the energy required to extract remaining supplies and the amount of energy supplies that are captured). Alternative energy forms and automotive propulsion systems are surveyed and assessed. Probable economic impacts on Michigan are discussed and the dual pressures of rising transport energy costs and federal regulations on the auto industry are outlined. State action for managing the economic transition which Michigan faces is recommended, and a mechanism for "managing change" is proposed.

"An Assessment of the Technical  
and Economic Feasibility of the Development  
and Manufacture of Light Rail Vehicles in Michigan

Interim Report

Bernard M. Conboy, Leonard E. Newland, et. al.

July 1980

The objective of this study was to explore the economic, business, and technical feasibility of manufacturing and marketing light rail vehicles and other rail passenger vehicles to the domestic and international market from engineering and manufacturing facilities in the state of Michigan, with emphasis on southeastern Michigan. The purpose of the assessment was threefold: (1) to estimate the future market for light rail vehicles and related products and services; (2) to determine and evaluate the reasons that such vehicles and products should be manufactured in Michigan; and (3) to evaluate the probabilities of existing manufactures locating in Michigan. The study was motivated by the potential for production and job opportunities inherent in the proposed SEMTA light rail subway and surface transit system. The study was conducted in two-parts, a market analysis and an economic development analysis.

Among the findings of the study were: (1) only an established passenger rail vehicle manufacture should be sought for location in Michigan and for the manufacture of vehicles for SEMTA; (2) for business and employment continuity a facility in Michigan should be equipped to manufacture all forms of rail passenger vehicles, to perform heavy duty rail vehicle maintenance, and to refurbish existing rail passenger vehicles, and (3) a special organization should be formed to serve as the focal point for the economic development activity and to work with foreign rail car manufactures to exploit the North American and world rail passenger market.

APPENDIX IV  
MTRP Advisory Committee Meeting Minutes



# Michigan Transportation Research Program

Highway Safety Research Institute  
The University of Michigan  
2901 Baxter Road  
Ann Arbor, Michigan 48109

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## MINUTES

MTRP Advisory Committee Meeting

Thursday, June 12, 1980

Michigan State University, The Faculty Club

Lansing, Michigan

Present: T. Datta, W. Drake, R. Hess, C. Kennedy, J. Kent, S. Lee, M. Rabins,  
and W. Taylor

Absent: G. Burton, R. Kaufman, H. McKenny

Observers: S. Foster

Guest: B. Thar

Exec. Sec: L. Newland

The meeting was convened at 1:20 p.m. Mr. Bud Thar, Executive Director of the Center for International Transportation Exchange (CITE) briefed the committee on the development and functions of CITE. The National Governor's Association (NGA) has embarked on the establishment of "Centers of Excellence" throughout the country for policy development and information exchange on matters of interest to the states. Besides CITE, five or six other centers are being established: Duke University in the subject area of public management; S. Florida University on services for the elderly; University of Arkansas on environmental and resource topics; and a center proposed for the University of Washington on fisheries and forestry topics. The centers will work to develop multi-state projects and to identify policy initiatives. CITE, in addition, will survey international experience in transportation which could be useful to the states and will provide meetings and forums where experience can be exchanged. Thar emphasized a need to bring to bear on federal policy the expertise in transportation that resides in the states, which he argued is collectively more than at the federal level. He noted that the roles of states are protected by the constitution and that inter-state compacts are constitutional. As an example he described the inter-state high speed passenger rail system project being launched by CITE. Consultants will be retained to survey the interested governors and lay out reasonable alternatives for each state which proposes to participate (primarily Great Lakes states). A study framework would be formulated which would describe the inputs needed from the states and the kind of model which should be used to develop a preliminary design for an overall rail network. The interested states will participate in the funding of the study. Therefore, CITE will function as a broker to develop studies and exchange information. It will do little research itself. The foreign exchange activities of CITE will be supported by the German Marshall Fund. A European exchange organization already exists, and CITE will become affiliated with it.

Rabins asked if "the automobile" is a topic of interest to CITE. Thar replied that is is since the Governors have become interested in the development and impacts of alternative energy sources.

Newland noted that CITE is assisting in making the other states aware of an HSRI project on the testing of tie-downs for wheelchairs in automobiles and small busses. As a result the NGA office in Washington, D.C. has been contacted and requested to notify the states of this project and determine if other states would be willing to support additional research and testing for which they may have particular interest. (Subsequent to the meeting, Thar advised Newland that the CITE newsletter will be used for this purpose as well).

Lee reported on the status of his project on the structural integrity of small busses. MTRP has financed the proposal for this project. Concern was expressed that findings might be negative with regard to certain vehicles or bus conversions, or may be interpreted that way. Hess was concerned that all pertinent findings be published. Lee assured him that this would be the case.

Newland reported on Datta's project on the development of a transportation energy contingency plan which includes a procedure to estimate energy consumption of busses in different operating conditions, duty cycles, and route configurations. This project will be completed in the next few months. It was originally recommended for state funding by MTRP.

Rabins requested that committee members receive the final reports for all projects recommended by MTRP.

Newland noted that project write-ups are needed for the four projects recommended by MTRP for FY 81 funding as part of the state's University Transportation Research Program (UTRP)<sup>1</sup>. The project write-ups must be submitted to the state by the end of this month. Newland noted that MTRP funds of \$20,000 will be requested for FY 81 and that no matching funds are required. He reported that U of M development (gifts and grants) activities are underway with no significant results to report as yet.

Drake asked if there were other agencies at the state level that would fund transportation research. Taylor suggested that the Department of Management and Budget which has an Interagency Transportation Coordinating Agency. This may be a possible mechanism for funding. The contact is Linda Barnes. Taylor and Drake felt that MTRP should pursue projects which would involve joint or multi-university proposals to non-state funding sources such as the U.S. DOT University Research Program. Rabins felt that such proposals would be warmly received by DOT. Newland noted that the University Research Program solicitations would be released within the next two to three weeks and the proposals would be due November 1, 1980. Kent felt that the universities should identify projects of regional significance that could be funded by other federal sources as well. It was generally agreed that MTRP should pursue such activities.

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<sup>1</sup> UTRP is supported by an appropriation of the State Legislature for \$150,000. The money cannot be spent unless non-state matching funds can be found.

Hess and Rabins briefly discussed recent meetings between the Presidents of U of M and WSU and the Office of Secretary of Transportation concerning possible funding to identify and foster activities which could bolster the State's economy during the transition of the automobile industry. Hess felt that MTRP could play a logical role in organizing the universities to address this question, and suggested that some of this federal funding should be used to fund MTRP directly. It was generally agreed. Hess and Rabins will speak to their executive officers concerning this possibility.

For the committee's information in developing projects for next year's funding, Newland distributed a recently published report by the Michigan Department of Transportation, Bureau of Planning, entitled "Summary of Michigan's Transportation Needs: 1977-1989." Taylor explained that this report is to be published every two years as required by the original public transportation legislation passed by the legislature.

The meeting was adjourned at 4:05 p.m.

cc: MTRP Advisory Committee  
Dr. Charles G. Overberger  
Mr. Stanley Foster  
Mr. James C. Kellogg  
Mr. Ivan Bartha  
Mr. Bud Thar



# Michigan Transportation Research Program

Highway Safety Research Institute  
The University of Michigan  
2901 Baxter Road  
Ann Arbor, Michigan 48109

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## MINUTES

Michigan Transportation Research Program  
Advisory Committee Meeting

November 29, 1979

Wayne State University

Present: Dr. Robert L. Hess, Chairman; Dr. Tapan K. Datta; Dr. Robert W. Kaufman; Mr. Henry McKenney; Dean James Kent; Dr. Sung Lee; Dr. Michael J. Rabins. Mr. Alvin E. Marshall; Mr. Leonard E. Newland, Executive Secretary.

Absent: Dr. William C. Taylor; Mr. George T. Burton, Jr.; Dr. William Drake; Mr. Chris M. Kennedy.

Observers: Mr. Stanley Foster; Dr. Thomas Maze, WSU; Dr. Snehmay Khasnabis, WSU.

The meeting was convened at 1:10p.m. The minutes of the committee meeting of September 19, 1979 at Michigan State University were corrected to indicate that Dr. Tapan Datta was present.

Hess proposed that the state funding for MTRP be supplemented by funds from the private sector in order to restore and sustain the levels of activity experienced during the first two years of the program. This would include the reactivation of subcommittees, expansion of staff activities, the hiring of graduate students, and the funding of studies and assessments by consultants and other agencies. The relationship with UPTRAN need not change, and Hess indicated that the method for obtaining private funds would be through the existing development and fund raising activities of The University of Michigan. Hess indicated that no formal action has been taken and that before he and Newland would carry the matter any further he would like the reactions of the committee and the endorsement of the idea by the individual members. The committee members reacted positively and after some discussion the committee members were polled and gave their endorsement unanimously. Newland will keep the committee informed of progress.

MTRP Minutes  
11/29/79

The suggested MTRP goals and objectives were discussed. McKenney felt that a user-oriented objective should be included in the list having to do with such things as durability, dependability, performance, convenience, comfort, etc., etc. Marshall suggested the idea of "consumer acceptance." Datta felt that there should be a reference to freight transportation.

As a result of action at the last meeting, the committee had been asked to review the suggested research projects and rank the top 15 in order of importance for discussion at this meeting. This was to form the basis for MTRP recommendations to UPTRAN for research projects to be included in the FY80-81 budget and for possible FY79-80 funding if federal matching funds materialize. Taylor had conferred with Senator Carl Levins staff and asked that the Senator contact Secretary Goldschmidt (U.S. DOT), apprise him of MTRP, and ask him to suggest possible matching funds sources within DOT. The correspondence from the Senator to the Secretary was distributed.

Rabins indicated that he found it difficult to rank the suggested research topics without some sort of a list of evaluative criteria which would be different than the goals and objectives. Foster noted that the UPTRAN's schedule for developing the 80-81 programs was such that MTRP recommendations would have to be received very early in January if they are to be considered. Kaufman and Kent felt that the committee should move forward with the development of evaluative criteria at this meeting. It was agreed. It was also agreed that in view of the time constraints, the following procedure and schedule would be adhered to by the committee members and the secretary: Newland will record the research categories (based upon the MTRP objectives) and the evaluative criteria; with these he will design a "ballot" and mail it along with the narrative expansions of topics submitted by Datta, to the committee members on December 4, 1979; in reviewing the research topics the committee members will discard those which do not fall into at least one of the research categories and will employ the criteria as they see fit in order to identify and rank the top 15 topics; the rankings will be returned to Newland by December 14, 1979. Newland will compare the topics to see if a consensus list can be established. If this cannot be done or if committee members have identified certain topics that require the special attention of the committee, then the committee will meet on December 21, 1979 in Ann Arbor.



MTRP Minutes  
11/29/79

Rabins suggested that in the future the source of the suggested topics not be indicated on descriptive materials submitted to the committee. (At this point the committee went into working session, and developed research category identifications and evaluative criteria. These were recorded by the secretary.)

The meeting adjourned at 3:30 p.m.

cc: Dr. Charles G. Overberger



# Michigan Transportation Research Program

Highway Safety Research Institute  
The University of Michigan  
2901 Baxter Road  
Ann Arbor, Michigan 48109

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## MINUTES

MTRP Advisory Committee Meeting

Wednesday, September 19, 1979

Michigan State University, The Faculty Club  
Lansing, Michigan

Present: W. Drake, R. Hess, R. Kaufman, C. Kennedy, J. Kent, S. Lee,  
A. Marshall, H. McKenney and W. Taylor.

Absent: G. Burton & M. Rabins.

Observers: I Bartha & S. Foster

Exec: Sec: L. Newland

Newland described the work he performed for UPTRAN under an amendment to the MTRP Contract in which UPTRAN management objectives and project selection criteria were developed. In his report, Newland recommended that the criteria and objectives be used in a procedure to evaluate projects recommended to UPTRAN for its consideration, and to evaluate and select applications for operating and capital grants from local agencies and to evaluate research proposals from consultants.

In the meeting of July 10, 1979 the committee agreed to develop its own procedures for evaluating recommended projects to be recommended to UPTRAN. Newland presented a suggested procedure for discussion purposes which would be compatible with the recommended UPTRAN procedures. He also presented suggested priorities which would be objectives ranked in order of importance. The priorities correlated closely to the UPTRAN management objectives. Newland's scheme called for the committee to appoint a subcommittee of its own members and charge it to review suggested projects with the priorities as a screening process, and to determine probable funding sources. Taylor felt that the review subcommittee would need to have an "iteration" with UPTRAN before making its recommendations to the full committee. Drake said that since UPTRAN is the "client" it would seem that MTRP should relate more closely to UPTRAN's projects. Lee felt the priorities should be more specific. Taylor felt that MTRP recommendations could go beyond simply projects. For example, MTRP might recommend to UPTRAN that it needs more long range planning than short range planning. Kaufman felt

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that MTRP needs to be able to influence UPTRAN's objectives two or three more years down the line. Kent felt that the MTRP priority statements should be preceded by "will" rather than "can." He questioned whether MTRP should review the effectiveness of UPTRAN's annual research and demonstration program. Datta felt that MTRP should "test" the projects implemented from MTRP's suggestions.

Drake said that acting as a middle man between a potential principal investigator and his federal sponsors was doomed to failure. He emphasized the need to have direct contact between the customer and the people who would be doing the work.

With regard to the first priority concerning energy conservation, Kennedy felt that the objectives should not be to reduce energy consumption but to reduce the dependence on interruptable sources of energy. Hess asked the secretary to modify the first priority and distribute it to the committee for its approval. Drake and Kennedy felt that the priority statements should not be ranked in order of importance. It was agreed. Drake felt that the fourth and fifth statements should be lead-ins to the others and be treated as a preface to a statement of objectives. Taylor felt that the priorities should be used as goals or objectives for the review of projects but that it would help if "program areas" could be identified to categorize the recommended projects.

Bartha indicated that the Legislature would probably look positively upon joint private industry and state sponsorship of MTRP. In this way MTRP could work on both public and industrial problems by using the Michigan academic capability with funds from the state and the private sector.

Newland will distribute to the committee before the next meeting a suggested list of program areas with a brief justification for each and a categorization of recommended projects. He will also distribute a list of the MTRP subcommittees and their members.

It was agreed that the next committee meeting will be in mid-November at Wayne State University. The meeting adjourned at 4:05 p.m.

cc: Dr. Charles G. Overberger  
Mr. Maxie Jackson, Jr.



# Michigan Transportation Research Program

Highway Safety Research Institute  
The University of Michigan  
2901 Baxter Road  
Ann Arbor, Michigan 48109

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## MINUTES

MTRP Advisory Committee Meeting

Tuesday, July 10, 1979

The University of Michigan, The University Club  
Ann Arbor, Michigan

Members Present: W. Drake, R. Hess, R. Kaufman, C. Kennedy, J. Kent, S. Lee,  
A. Marshall, H. McKenney, W. Taylor, and M. Rabins

Observer: S. Foster

Exec. Secretary: L. Newland

The chairmen convened the meeting at 1:20 p.m. L. Newland reported on the new \$20,000 MTRP contract which began on June 6, 1979 and will run for one year. The purpose of the contract is to support MTRP Advisory Committee activities (see Work Statement, attached). He noted that he has been asked to prepare criteria for UPTRAN to be used in the evaluation of the applications for operating and capital grants from local agencies and for the evaluation of research proposals from consultants. Hess noted that for reasons of expediency Newland's work will be covered under an amendment to the MTRP contract. It was agreed that Newland will transmit copies of the results of this work to the committee for its information.

Professor David Cole<sup>1</sup> was introduced by Hess. Cole reviewed the recently announced Federal-Industry-Universities joint program to develop new automotive technologies for implementation beyond 1990. He indicated that his Office for the Study of Automotive Transportation is taking a leadership role at The University to organize UM resources as a part of this overall program. He reported on the recent President's "automotive summitt" meeting of auto industry

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1. Department of Mechanical Engineering, College of Engineering, and Director of the Office for the Study of Automotive Transportation, The University of Michigan, 247 Chrysler Center, North Campus, Ann Arbor, Michigan 313-764-5592.

and government officials attended by The U of M Dean of Engineering, Dr. David Ragone. He also discussed the recent conference on Basic Research Directions for Advanced Automotive Technology which grew out of the "automotive summit."<sup>2</sup> He was encouraged, he said, that conference participants did not "push" exotic technologies. Cole felt that the program which is emerging in response to Secretary Brock Adams' call for the "reinvention of the automobile" will heavily emphasize basic research not only in areas of technology but in policy analysis and socio-economic research. Cole noted that the domestic industry's resources are being used for short-term problem solving associated with government regulations and that there is little long-term research. The foreign competition puts more into long-term and basic research than the U.S. It is not clear at this point which federal agency will take a leadership role in the program, but Cole felt that a federal administrative structure would be in place by this fall. He felt that Dr. Frank Press, Scientific Advisor to the President, will be the chief architect of the program. At this point, the Transportation Systems Center has the lead and will support workshops this fall to refine the research agenda. Appropriations will probably begin in 1981 with an accelerating level of funding over a five, and possibly a ten, year time period. Cole said that the research would be conducted in universities.

Hess re-emphasized that this will not be exclusively an engineering project and that it will be necessary to study the impacts of a future form of personal transportation as well as social and economic impacts in general. Cole noted that the Policy Analysis Division of HSRI is involved in the formulation of The U of M program.

Cole felt that the ongoing results of such a multi-year program will necessitate a well-organized experience and technology transfer activity. He is in discussions with ERIM to provide this function. Rabins asked if Cole had considered a consortium, or some means of involving talent from outside The University. Cole indicated that when the University's resources are organized he will seek to build a consortium. Cole solicited the views of the committee's automotive industry members with regard to the overall program. Kennedy and Marshall felt the program was necessary and important. Kennedy observed that the program focuses on increasing energy efficiency

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2. See the conference report, "A Research Blueprint for Future Automotive Technology," April 6, 1979 (enclosed).

of automotive power plants and therefore on fuel conservation. He felt that developing new fuels and sources was important also. Cole agreed and indicated that the research and development of alternative fuels has its own research agenda.

Rabins noted that he recently attended a DOE conference chaired by John Deutsch to identify research areas for the DOT program, including thermodynamics, fluids and combustion, and controls and dynamics.

Hess reported that Dr. Maxie Jackson, Jr., recently appointed Assistant Deputy Director of UPTRAN, was unable to attend the meeting to present the scope and thrust of the UPTRAN 1980-81 program. For the committee's information, Foster described the process and time table by which the UPTRAN annual program is formulated. Jackson will be invited to attend the September meeting.

Taylor, Newland, and Hess described The University Transportation Research Centers Program. There is a potential for federal matching funds to universities conducting transportation research with state funding during next fiscal year. In anticipation of this, the Michigan Legislature has appropriated \$150,000 per year for this fiscal year and next fiscal year to be awarded to Michigan universities. Because of the short time period remaining for the awarding of this fiscal year's funds (before October 1, 1979), Hess and Taylor, working with Rabins, Rol, Lee, and Newland, developed a list of several projects collected from Michigan universities and including former MTRP recommendations. They prioritized this list and submitted it to UPTRAN. An UPTRAN executive committee reviewed this list and selected ten research projects which were included in a proposal from Michigan DOT to the U.S. DOT for federal matching funds when and if such funding is available. From the list of ten, four projects were selected for immediate state funding. The universities which suggested these projects were selected by UPTRAN to enter into negotiations for contracts directly from UPTRAN to the individual university. It was indicated that the selected primes would be interested in sub-contracting to universities which were not selected. The selected research projects, the university primes and potential university sub-contractors are:

- (1) "Transportation Energy Contingency Plan," WSU, Tapan Datta (UM, Newland; MSU, Taylor, WMU, Kaufman)
- (2) "Removing Institutional Barriers to Transit Ridership," MSU, Taylor
- (3) "Travel Demand of the Elderly and Handicapped," WSU, Parrish (UM, Pastalan)
- (4) "Structural Integrity of Small Buses," Mich. Tech., Lee

Rabins felt that the committee should consider alternative roles which MTRP could play in the review and endorsement of proposals submitted to it by UPTRAN or others. Hess and Taylor suggested that a procedure be developed for review by the committee in its meeting to be held in September in East Lansing. Such a procedure would be used in a development of the annual University Transportation Research Centers Program and other projects as well. Foster noted that the \$150,000 state money for this fiscal year and the like amount for the next fiscal year will appear as a line item but will not be split out into separate projects. Because of this, changes could be made. Taylor felt that it was probably too late for MTRP to develop project recommendations for 1980-81 because of the UPTRAN time table for review. It was agreed that MTRP would allow the remainder of the several projects already recommended to UPTRAN to be reviewed for FY 80-81. It was agreed that committee members who are also chairmen of ad hoc committees would poll their members for suggested research topics, and report the results at the September meeting.

Taylor reported that a recommendation of the MTRP transportation energy white paper was informally discussed with the Governor's office. The recommendation calls for the convening of a task force to improve cooperation between agencies of the federal government and the Michigan transportation industry in achieving national goals in energy conservation, environmental standards and safety in transportation. The recommendation included the defining of specific areas of research and development where coordinated and integrated developments in commerce, transportation, and human settlements could significantly reduce the short- and long-term impact of rising energy costs and scarcity on the economy of Michigan and its citizens. The Governor's office asked that a committee be formed to review the recommendation and in particular, to consider the assertion on the part of MTRP automotive industry committee members that conflicting government regulations on the auto industry are having the effect of exporting jobs from Michigan.

A meeting was held on March 26, 1979, and was attended by (1) Norton Berman, Director of the Office of Economic Development, Michigan Department of Commerce; (2) other members of Commerce, (3) a representative of the Governor's Office of Management and Budget, (4) a representative for Jim Kellogg, (5) Dr. Saul Hymans (UM), (6) and the following MTRP members: Kennedy, Chrysler, Marshall, Ford, Hess, Taylor, and Newland. It was decided that Taylor

would gather information and data from Kennedy, Marshall, Hymans, and General Motors which could corroborate the "jobs exporting" arguments. Over the past several weeks such data could not be developed or was not available. Taylor developed a draft report recommending that there should be no role for the Governor in taking a public position on this issue at this time. Taylor reported that very recently General Motors contacted him indicating that they would strongly favor a recommendation for the Governor to urge a relaxation of regulations on the industry. Taylor will redraft his report and submit it to Kennedy and Marshall for their reactions.

The distribution of the transportation energy white paper was discussed. It was generally felt that very broad distribution is needed, including a copy to every member of the legislature. Rabins suggested that it be given to editors of lay magazines in Michigan. Newland expressed concerns about publication costs and ask Foster to determine if Michigan DOT could print several thousand copies or whether a member of the State Legislature could be asked to submit the report to the state printing office for large scale publication. Foster will explore these possibilities. McKenney indicated that the Michigan Energy Administration has federal funds for information dissemination and it may be that the Administration would be willing to cover publication costs.

The meeting was adjourned at 3:28 p.m.

(The next meeting will be held in September, 1979 in East Lansing, Michigan at MSU. The date will be announced.)

cc: M. Jackson, Jr.

C. Overberger