

MEMORANDUM OF UNDERSTANDING
BETWEEN
PURDUE UNIVERSITY
WEST LAFAYETTE, INDIANA
AND
INDIANA DEPARTMENT OF TRANSPORTATION
STATE OF INDIANA
FOR THE
JOINT TRANSPORTATION RESEARCH PROGRAM

This Memorandum of Understanding, made and entered into on this _____ day of _____, 1999, by and between the Indiana Department of Transportation, hereinafter referred to as "INDOT," and Purdue University, hereinafter referred to as "PURDUE," on behalf of its Joint Transportation Research Program, hereinafter referred to as "JTRP."

WITNESSETH:

THAT WHEREAS, INDOT is faced with certain basic technical problems in its operations and in connection with its planning of future operations; such problems warranting considerable study and research; and

WHEREAS, the JTRP is a cooperative effort created by the Indiana Legislature, by its Acts of 1990 and codified at Indiana Code 8-23-9-56, as a means of providing research and development for the best methods of improving and maintaining the state transportation system; and

WHEREAS, the JTRP is housed at PURDUE.

WHEREAS, PURDUE has the technical staff and facilities capable of doing such research work; and

WHEREAS, INDOT expects that the United States Department of Transportation ("USDOT") – Federal Highway Administration ("FHWA") and other agencies within the USDOT will participate financially with INDOT in paying the attendant costs of federally funded research studies and activities, such studies and activities hereinafter referred to as "SPR," and other Federally Funded Studies and Activities; and

WHEREAS, INDOT expects to pay the total attendant costs of totally state funded studies and activities, such studies and activities hereinafter referred to as "JTRP Studies and Activities"; and

WHEREAS, it is required by the FHWA and other agencies within the USDOT, and in the best interest of INDOT, that the basic provisions pertinent to the conduct of work performed by JTRP be enumerated in a Memorandum of Understanding, hereinafter referred to as "MOU"; and

WHEREAS, PURDUE will submit, on behalf of the JTRP, to INDOT various "Proposals for Research Studies," and each will include a statement of objectives, work plan, anticipated benefits and implementation of the study, and total cost and will by reference incorporate the provisions of this MOU; and

WHEREAS, the Proposals will be approved by INDOT and the JTRP Advisory Board.

NOW THEREFORE, IT IS AGREED that PURDUE shall conduct all JTRP research work in accordance with the following:

PURDUE agrees to undertake and perform completely each approved research project, including such investigations, services, activities, consultations, data-gathering, and other related work and studies as it may feel necessary to arrive at satisfactory conclusions pertinent to the specific problems posed, including a final report (and other deliverables identified in the proposal) with recommendations germane to such conclusions. The term “research project” as used herein shall include planning technical investigations and other data gathering and analysis activities as these may be defined in approved Proposals.

FOR JTRP, SPR AND OTHER FEDERALLY FUNDED STUDIES AND ACTIVITIES THE FOLLOWING PROVISIONS ARE A PART OF THIS MOU:

- I. SPR Studies are funded using a mix of federal and state funds and JTRP Studies are funded using one hundred percent (100%) state funds. Other studies and activities may have different funding splits. INDOT, through its annual budgeting process, authorizes an annual appropriation for research assistance and administration at PURDUE. Approximately one-half (½) of this budgeted amount is made available to PURDUE each six months in advance of disbursement by PURDUE. The exact amount is recommended to INDOT for approval by the JTRP Advisory Board and requisitioned by voucher from PURDUE to INDOT as per an annual purchase for JTRP services made by INDOT.

Legislation authorizes this annual aid by INDOT to PURDUE for research and extension. Payment of the aid is obtained by filing a six month voucher for the amount authorized by INDOT and is not based on the six month JTRP expenditures by PURDUE or an estimate of those expenditures for subsequent six month periods. However, to ensure INDOT constantly has knowledge of how the funds are being used and/or accumulated, PURDUE will submit a quarterly estimate of expenses for each succeeding quarter and report the actual expenses of the most recent quarter for which such expenses are available.

- II. Maximum Fee: The total sum paid to PURDUE under approved study proposals shall not exceed the estimated total cost included in the approved Proposal without written approval as specified in the JTRP Advisory Board approved “JTRP/INDOT User's Manual for Research and Implementation.” The basis of payment from INDOT to PURDUE will be actual costs incurred by PURDUE in conducting the research.
- III. Cost Principles: The cost principles and eligibility of direct and indirect cost items relative to federally funded research activities are set forth in the Code of Federal Regulations, Title 48, Contract Cost Principles and Procedures, Subpart 31.3 (OMB Circular A-21), Direct Costs only will be claimed for reimbursement when in the form of expenses for personnel, travel, equipment, rental of special space, materials and services, as further defined within the provisions for this MOU.

Charges made by PURDUE to INDOT, and payable by INDOT for SPR and other federally funded studies and activities and state funded studies and activities, are to be actual expenditures for personnel time, travel and subsistence, expendable and non-expendable equipment, supplies, and miscellaneous services, including computational expenses and other incidental items, to be billed monthly or quarterly by PURDUE to INDOT on supplementary vouchers. Such vouchers will be supported by copies of the original documents covering the charges. Such supporting documentation will be maintained at PURDUE.

INDOT maintains the right to withhold an agreed upon percentage of study funds until final deliverables, as outlined in the Proposal, are satisfactorily received by INDOT. Furthermore, with written notification to PURDUE prior to Proposal approval, INDOT reserves the right to assign and make payments for study activities to deliverables identified in the Proposal(s); PURDUE retains the right to decline participation in such Proposal(s).

Personnel time will be charged 1) on hourly employees for only that time actively spent on the project and 2) on salaried professional staff for only that percentage of effort actively expended on a project, including for both hourly and salaried personnel vacations and sick leave allowances according to the policy of PURDUE at the basic rate of pay of their persons employed, plus PURDUE payments for fringe benefits.

For hourly employees, records of time actually spent on each project by each employee will be maintained by PURDUE and available for review by INDOT.

For salaried professional staff, a certification shall be made on payroll forms at the end of each month of the percentage of effort actually expended by each employee during the previous semester on each project. These too will be maintained by PURDUE and available for review by INDOT.

Totals of salaries and wages shall be shown on all billings and shall be supported by copies of payrolls showing basic rates of pay, and all loadings will be added as separate items or on a percentage basis applied to the total salaries. There will be no charge for Facilities & Administration (“F&A”) costs. PURDUE will contribute office space, heat, utilities, and other services usually associated with F&A costs to the transportation research program of the State of Indiana.

IV. Equipment Purchase and Disposition:

All purchases of nonexpendable equipment purchased through PURDUE initially costing more than the amount specified in the JTRP Advisory Board approved “JTRP/INDOT User's Manual for Research and

Implementation” must be accounted for with the equipment maintained on an inventory. This inventory will be maintained by the JTRP Director for studies performed through JTRP, and a copy of the inventory in the JTRP Advisory Board approved format will be forwarded to INDOT's Research Division by April 15th of each year. The equipment will likewise be inventoried in PURDUE's Property Accounting System.

Equipment purchases shall be itemized as much as possible in the study proposal. Approval of the proposal constitutes approval of purchase of the equipment. If the approved proposal includes itemized equipment costs, no further approval of purchasing these equipment items is necessary. If only the total estimated equipment cost is included in the approved proposal, but the equipment items are not listed, further approval is required by the Study Advisory Committee (SAC) and JTRP Advisory Board when individual pieces of equipment are purchased costing more than the amount specified in the JTRP Advisory Board approved “JTRP/INDOT User's Manual for Research and Implementation.” If the cost of an approved piece of equipment exceeds the itemized cost by the amount specified in the JTRP Advisory Board approved “JTRP/INDOT User's Manual for Research and Implementation,” SAC approval is recommended.

At the end of each research project, the JTRP Advisory Board is to be notified what equipment was purchased as a result of the project and whether PURDUE desires to retain possession of the equipment for future INDOT research projects. INDOT can take ownership of the equipment and has the first right-of-refusal to acquire said ownership. If INDOT decides not to take ownership of the equipment and PURDUE decides not to retain the equipment, it may be sold to a third party outside INDOT and PURDUE at salvage value and removed from the PURDUE inventory. Funds from the salvage will be returned to JTRP for use in JTRP research and administration and identified in the PURDUE quarterly estimate of expenditure report. When INDOT takes possession of a piece of equipment, the equipment will be removed from the PURDUE inventory and added to the INDOT inventory.

- V. Records: PURDUE shall maintain accounting records and other evidence pertaining to the costs incurred on each project. These data will be made available for inspection by INDOT, FHWA or any authorized representative of the State and Federal Government at all reasonable times at PURDUE during the study period and for three (3) years after the date of the final payment of funds to PURDUE with respect to the study. Copies of such records shall be furnished if requested.
- VI. Proprietary Rights: It is agreed that if patentable discoveries or inventions should result from research described herein, such findings shall be promptly reported to INDOT and FHWA. PURDUE will have the right to

retain all rights, title and interest in patentable inventions and copyrightable materials, including software, subject to:

1. A nonexclusive, nontransferable, irrevocable, paid-up license to the United States in accord with the provisions of Title 37, *Patents, Trademarks, and Copyright, Part 401 – Rights To Inventions Made By Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements*; and
2. A nonexclusive, nontransferable, irrevocable, paid-up license to the State of Indiana for governmental purposes.

Purdue may license such patentable inventions, copyrightable materials, and software to Third Parties. When such licenses are royalty bearing, INDOT and Purdue agree to equally share all net royalty income (Net Royalty Income = Gross Royalty Income less direct legal expenses) except for Type 1 software as outlined below. INDOT designates its share of Net Royalty Income to JTRP research and administrative expenses at Purdue.

Furthermore, the parties agree that PURDUE will retain all rights provided for the subgrantee or contractor, and the State of Indiana, acting through its Department of Transportation, will not, as a part of the consideration for awarding this or any future awards, obtain rights in the subgrantee's or contractor's subject inventions. 23 CFR § 420.121(j).

It is recognized that two types of software may be developed under this MOU:

- a. Type One: JTRP developed, supported and distributed software. Revenue generated from the sale of Type One Software will be used to offset JTRP expenses.
- b. Type Two: JTRP developed but distributed and supported by a Third Party under license from Purdue. The license provides for full Third Party funding to produce, maintain, and improve the software. The license also provides for royalty payments to Purdue based on the Third Party sales of the software.

Furthermore, any revenue generated from the sale of reports, publications, data, information, or electronic media described above by JTRP will be used to offset JTRP expenses.

VII. Period of Performance: Each study will be made during the period stated in the approved proposal, unless modified by written approval of INDOT and the JTRP Advisory Board.

VIII. Inspection of Work: INDOT, FHWA and other appropriate federal agencies shall be accorded proper facilities for review and inspection of the work hereunder and shall at all reasonable times have access to the premises, to all books, records, correspondence, instructions, receipts,

vouchers and memoranda of every description pertaining to the work hereunder. Arrangements for all reviews and inspections by FHWA or other Federal agencies, will be made by INDOT.

- IX. Travel: It is agreed that all out-of-state travel performed for, or expenses in connection therewith incurred against, a project shall be reported to the JTRP Advisory Board on a quarterly basis.

- X. Reports: It is agreed that PURDUE will furnish written quarterly progress reports on each JTRP project. It is provided that Interim Research Reports, as appropriate, and the Final Research Report on each project will be prepared and submitted to the Study Advisory Committee, INDOT, and FHWA, or the appropriate agency within USDOT for review and comment prior to their publication or distribution. Acceptance of the final report by INDOT as satisfactory is a requirement for fulfillment of this MOU as it pertains to a study. Upon approval by FHWA and INDOT, JTRP will publish such interim and/or final reports on each project in quantities sufficient for distribution to INDOT and FHWA, as required by their current practice and for reasonable dissemination by PURDUE. Publication may be in electronic format, as approved by the JTRP Advisory Board.

All Interim and Final Reports published shall contain the following statement on the credit sheet: "The contents of this report reflect the views of the author(s) who is (are) responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Indiana Department of Transportation or the Federal Highway Administration or the appropriate Federal agency. This report does not constitute a standard, specification or regulation."

- XI. Publication Provisions:
 - A. Papers, interim or final reports, forms or other material which are a part of the work under an approved study may be copyrighted by PURDUE with the provision that INDOT and FHWA, or the appropriate Federal agency, reserve a royalty-free, nonexclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, the work for government purposes. (refer to Article VI for a more detailed discussion regarding Proprietary rights)

 - B. Prior to acceptance of a final report, either party to the MOU or FHWA, or the appropriate Federal agency, may initiate a request for publication of a final or interim reports, or any portions thereof. No other reports may be published, except as provided in Section H below.

- C. Neither party shall publish nor otherwise disclose, nor permit to be disclosed or published, the results of any investigations herein contemplated, or any particulars thereof, during the period of each project without notifying the other and securing its consent in writing, except as provided in Section H below.
- D. The parties to this MOU shall have equal responsibility to review and approve material for publication, except that INDOT reserves the right to initially publish the final report.
- E. In the event of failure of agreement between INDOT and PURDUE relative to the publication of a final report, or any interim reports during the period of a project, INDOT reserves the right to publish independently, in which event the non-concurrence of PURDUE shall be set forth, if requested by PURDUE.
- F. If INDOT does not elect to publish a final report, publication by PURDUE shall then be a matter within the province of PURDUE policy; but, if PURDUE then elects to publish independently, the non-concurrence of INDOT and FHWA, or the appropriate Federal agency, shall be set forth, if requested by INDOT or FHWA, or the appropriate Federal agency.
- G. When the scheduled time for presentation of a paper containing previously undisclosed findings does not permit formal review and approval of a complete report, abstracts may be used for notification of intent to present a paper based on the study. Such presentation must protect the interests of the other party by the inclusion of a statement in the paper and in the presentation to the effect that the paper has not been reviewed by the other party or FHWA, or the appropriate Federal agency.
- H. Both written and oral releases are considered to be within the context of publication. However, there is no intention to limit discussion of studies with small technical groups or lectures to employees or students. Lectures to other groups which describe research plans, but disclose neither data nor results, are permissible.
- I. Publication by either party shall give credit to the other party and to FHWA, or the appropriate Federal agency unless, upon failure of agreement on any report of the study, FHWA, the appropriate Federal agency or either of the contracting parties requests that its credit acknowledgment be omitted.
- J. After acceptance of a final report, PURDUE, INDOT, and FHWA, or the appropriate Federal agency, is free to use the data and results without restriction. If patentable items are involved, this paragraph is subject to the provisions of Section VI.

- XII. Study Advisory Committee: The parties to this MOU, with the consent and approval of the individuals and agencies concerned, will appoint a Study Advisory Committee for each research project. All agencies cooperating directly with INDOT shall be represented on the Study Advisory Committee. The Study Advisory Committee shall provide the principal investigator of the project with technical advice and with suggestions for work programming to promote the efficient and prompt attainment of the research objectives and the implementation thereof as set forth in the approved Proposal for each project.
- XIII. Termination of Previous Agreement: It is the intent of the parties hereto that upon execution of this MOU the provisions herein will become applicable to all future JTRP research projects, thereby superseding the provisions of the document entitled "A Compilation of Established Policies for Cooperative Special Study Projects" as compiled November 2, 1961 and revised February 1, 1970 and April 4, 1979, as well as two addenda dated June 18, 1980 and August 27, 1987.
- XIV. Rental of Space, Special Equipment or Facilities: The actual cost to PURDUE of renting additional space, special equipment or facilities, not owned by PURDUE but required for a JTRP project, will be approved by INDOT through a listing in the proposal. The cost thereof shall be included in the total cost of the study.
- XV. Ownership of Data: The ownership of all data, drawings, charts, etc., which are prepared or produced under this MOU shall be vested in PURDUE with the understanding that INDOT has access to such data, drawings, charts, etc., as desired, during each project period and for a period of at least three (3) years following the completion of each study.
- XVI. Subcontracting: It is agreed that PURDUE will not enter into contracts with a third party to execute any part of a project, without prior written approval of INDOT; and provided further that no such subcontracts will be permitted on any project in value exceeding 50% of the total agreed cost of that project. It is agreed, however, that this provision shall not be interpreted to prevent PURDUE from obtaining professional assistance at reasonable cost or at no cost from any of its departments or units, or from INDOT.
- XVII. Change in Study: Any alteration, extension, expansion, supplement, or modification of the scope of work and method of study as detailed in an approved proposal must be prior-approved by the Study Advisory Committee and the JTRP Advisory Board as specified in the JTRP Advisory Board approved "JTRP/INDOT User's Manual for Research and Implementation."

XVIII. JTRP Director Responsibilities: The JTRP Director is responsible for the overall operation of the JTRP. In this capacity, the Director is responsible for the timely submission of project reports, meeting program requirements and deadlines, and assuring compliance with JTRP Advisory Board, policies, procedures, and guidelines. The Director will monitor all JTRP projects to assure such compliance. The Director will report any faculty and staff failure to comply to the appropriate PURDUE academic or fiscal administrator. PURDUE will take appropriate action to either remedy the immediate problem and/or prevent future occurrences by such faculty or staff member.

The Director will review all PURDUE proposals prepared for submission to the JTRP Board. If acceptable, the Director will submit the proposal, through normal PURDUE procedures, to the JTRP Advisory Board for consideration. PURDUE will ensure that procedures are in place to ensure that proposal budgets (including budget changes and expansions) are reasonable and accurately reflect the level of effort required to successfully accomplish project objectives outlined in the proposal and that expenditures against such budgets are properly made and invoiced.

XIX. Termination of Memorandum of Understanding (MOU): Either party may terminate this MOU by giving the other party thirty (30) days written notice of its election to do so. If research projects are cancelled under this provision, INDOT shall reimburse PURDUE for all work completed to that date and for all commitments entered into prior to the date of termination notice. Upon termination, all data, results, reports, and other materials developed by PURDUE during JTRP projects will become the property of INDOT.

XX. Non-Discrimination:

A. Pursuant to Indiana Code 22-9-1-10, PURDUE and its subcontractors, if any, shall not discriminate against any employee or applicant for employment, to be employed in the performance of work under this MOU, with respect to hire, tenure, terms, conditions, or privileges of employment or any matter directly or indirectly related to employment, because of race, color, religion, sex, disability, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of this MOU.

B. PURDUE, and any agent of PURDUE, in the performance of the work under this MOU, shall comply with 42 U.S.C. §2000e, provided PURDUE has fifteen or more employees for each working day in each of twenty or more calendar weeks in the current or preceding calendar year. 42 U.S.C. §2000e states in part that it shall be unlawful for PURDUE to:

1. fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, or national origin; or
2. to limit, segregate, or classify its employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect any individual's status as an employee, because of such individual's race, color, religion, sex, or national origin.

PURDUE shall comply with 42 U.S.C. §2000e, the terms of which are incorporated by reference and made a part of this MOU. Breach of this covenant may be regarded as a material breach of this MOU.

C. PURDUE agrees to comply with the regulations of the U.S. Department of Transportation relative to non-discrimination in federally assisted programs of the U.S. Department of Transportation. Title 49, Code of Federal Regulations, Part 21, effectuates 42 U.S.C. §2000e above, and is incorporated by reference and made a part of this MOU. Pursuant to 49 CFR Part 21, PURDUE agrees as follows:

1. Nondiscrimination: PURDUE, with regard to the work performed by it after award and prior to completion of the MOU work, will not discriminate on the grounds of race, color or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. PURDUE will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the MOU covers a program set forth in Appendix "A" of the Regulations.
2. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiations made by PURDUE for work to be performed under a subcontract, including procurements of materials or equipment, each potential subcontractor or supplier shall be notified by PURDUE of PURDUE's obligations under this MOU and the Regulations relative to non-discrimination.
3. Information and Reports: PURDUE will provide all information and reports required by the Regulations, or directives issued pursuant thereto, and will permit access to its books, records, accounts, and other sources of information, and its facilities as may

be determined by INDOT or FHWA, or the appropriate Federal agency, to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of PURDUE is in the exclusive possession of another who fails or refuses to furnish this information, PURDUE shall so certify to INDOT, or FHWA, or the appropriate Federal agency, as appropriate, and shall set forth what efforts it has made to obtain the information.

4. Sanctions for Noncompliance: In the event of PURDUE's noncompliance with the nondiscrimination provisions of this MOU, INDOT shall impose such MOU sanctions as it or FHWA, or the appropriate Federal agency, may determine to be appropriate, including, but not limited to, suspensions or termination or refusal to grant or to continue federal financial assistance or by any other means authorized by law.
5. Incorporation of Provisions: PURDUE will include the provisions of paragraphs (1) through (5) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. PURDUE will take such action with respect to any subcontract or procurement as INDOT or FHWA may direct as a means of enforcing such provisions, including sanctions for noncompliance. In the event PURDUE becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, PURDUE may request INDOT to enter into such litigation to protect the interests of INDOT and, in addition, PURDUE may request the United States to enter into such litigation to protect the interest of the United States.

XXI. Compliance with Federal and State Laws:

- A. PURDUE shall comply with all Federal, State and Local Laws applicable to its work and shall procure at its expense or project expense all licenses and permits necessary for the fulfillment of its obligations.
- B. The parties to this MOU agree to abide by and incorporate, as applicable, the provisions of Title 49, Code of Federal Regulations, Section 19.48, in this and any other Agreements or Contracts the parties may enter into, either individually or jointly, associated with this MOU.

XXII. Notices

Notices and communications regarding the MOU will be addressed to the party to receive such notice or communication at the address given below, or such address as may hereafter be designated in writing:

If to INDOT: Chief, Division of Research
1205 Montgomery Street – P. O. Box 2279
West Lafayette, IN 47906

If to PURDUE: Director, Joint Transportation Research Program
Purdue University
1284 Civil Engineering Building
West Lafayette, IN 47907

And

Director, University Contracting Group
Purdue University
1063 Hovde Hall
West Lafayette, IN 47907-1063

In witness whereof, the parties have executed this Memorandum of Understanding by their duly authorized officers on the day, month, and year set forth on page one of this document.

PURDUE UNIVERSITY

INDIANA DEPARTMENT
OF TRANSPORTATION
Recommended For Approval By:

Dr. Kumares C. Sinha
Director of JTRP

Dr. Barry K. Partridge
Chief, Research Division

Dr. Vincent P. Drnevich
Head of School of Civil Engineering

Firooz Zandi
Deputy Chief Engineer
Chairman of JTRP

Dr. Richard J. Schwartz
Dean of the Schools of Engineering

Executed By:

Executed By:

Larry E. Pherson
Director Sponsored Program Administration

Cristine M. Klika
Commissioner, INDOT

**PURDUE UNIVERSITY
WEST LAFAYETTE, INDIANA 47907**

**AMENDMENT NO. 1
MEMORANDUM OF UNDERSTANDING**

With

**INDIANA DEPARTMENT OF TRANSPORTATION
STATE OF INDIANA**

**FOR THE
JOINT TRANSPORTATION RESEARCH PROGRAM**

This is an amendment to the Memorandum of Understanding, which carries an effective date of July 1, 2000 between Purdue University (hereafter referred to as "Purdue"), and the Indiana Department of Transportation (hereafter referred to as "INDOT"), for the Joint Transportation Research Program (hereafter referred to as "JTRP"). Purdue University and the Indiana Department of Transportation agree to the following amendments:

Purpose of Amendment:

To facilitate the installation of a fiber optic communication line that allows direct access to the Purdue University Computing Center by adding the following provisions:

- I. INDOT will provide additional funding to the JTRP administrative core for the fiscal year 2000-01 to cover the monthly access fees for the fiber optic line. The said funds (similar to other administrative costs) will be paid at the beginning of each fiscal year. In future years, INDOT will likewise provide additional funds equal to the actual cost for the monthly service fees.
- II. INDOT will provide additional funding to the administrative core for the fiscal year 2000-01 to cover the costs associated with set up, activation and maintenance fees for the fiber optic line inside of the INDOT Research Division building.
- III. This fiber optic line is installed in support of the Joint Transportation Research Program of INDOT and Purdue. It is anticipated that INDOT will provide funding for the access and maintenance fees for as long as the JTRP exists at Purdue.

All other terms and conditions remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment No. 1 of the Memorandum of Understanding by their dully authorized officers on the day, month, and year set forth on page one of this document.

INDIANA DEPARTMENT
OF TRANSPORTATION



Dr. Barry K. Partridge
Chief, Research Division



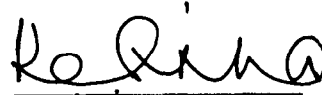
Firooz Zandi
Deputy Chief Engineer
Chairman of JTRP

Executed By:



Cristine M. Klika
Commissioner, INDOT

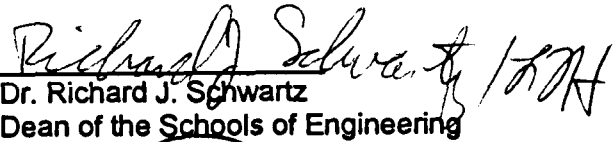
PURDUE UNIVERSITY



Dr. Kumares C. Sinha
Director of JTRP

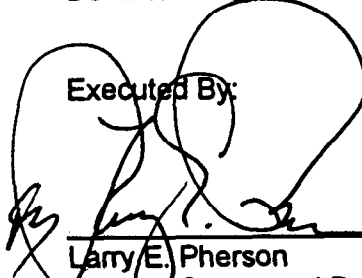


Dr. Vincent P. Dmevich
Head of School of Civil Engineering



Dr. Richard J. Schwartz
Dean of the Schools of Engineering

Executed By:



Larry E. Pherson
Director Sponsored Program Administration