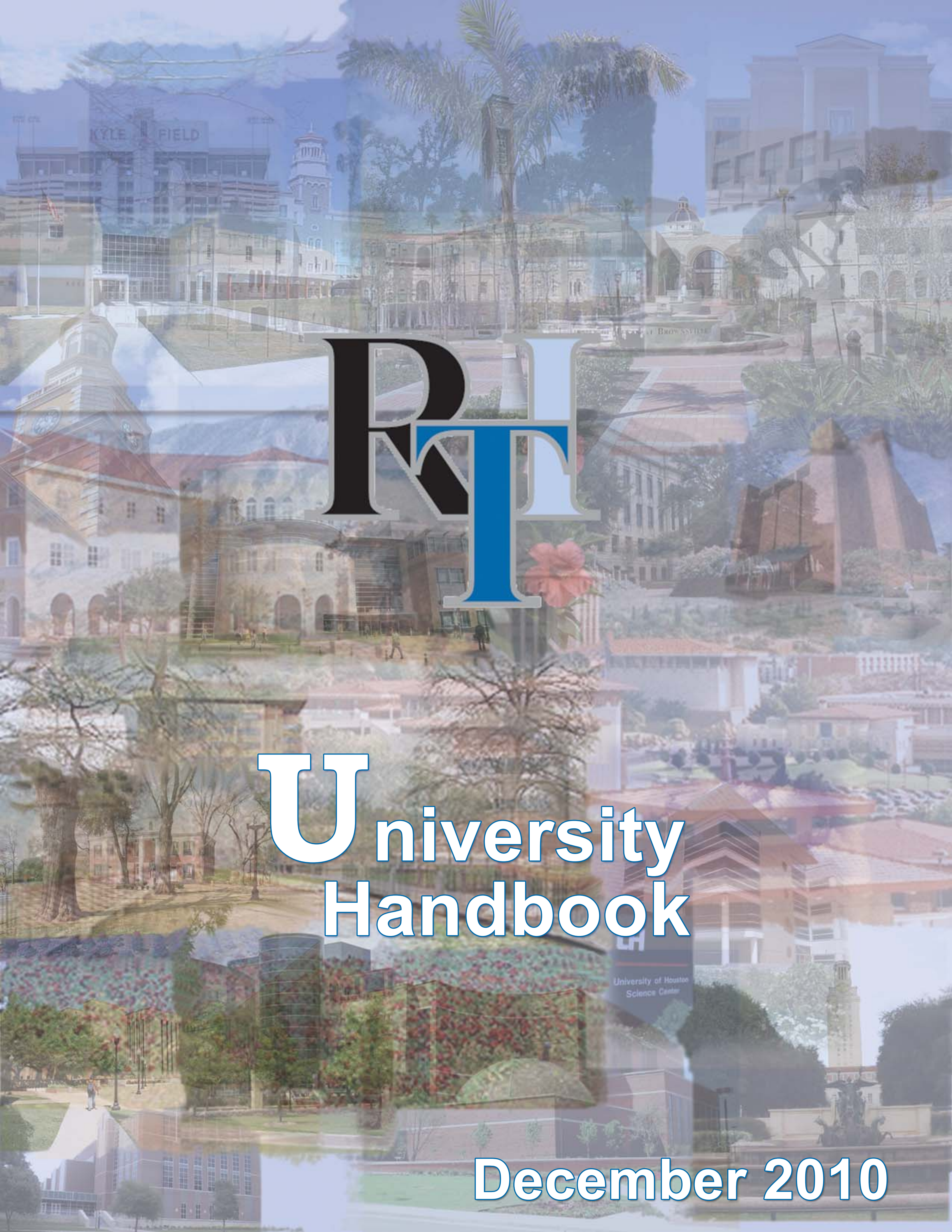

RTI

University Handbook

December 2010

University Handbook
Table of Contents

Chapter 1 — TxDOT Research Program

Chapter 2 — The CRIA

Chapter 5 — Project Agreements

Chapter 6 — Managing the Project

Chapter 7 — Deliverables Standards

Chapter 1
TxDOT Research Program

Section 1: About This Handbook

Relationship to the *Research Manual*

TxDOT's *Research Manual* is maintained by the Research and Technology Implementation Office (RTI), and presents program policies and an overview of TxDOT's technical research program. It provides the framework and policies under which related procedures are developed.

This handbook establishes the procedures that implement the policies expressed in the *Research Manual*. By signing a Cooperative Research and Implementation Agreement (CRIA), each university, or university system, agreed to abide by current TxDOT procedures. This handbook presents those procedures to universities active in TxDOT's research program.

Using this Handbook

The Table of Contents in each chapter provides a quick list of the individual topics covered. Below is a summary of each chapter to help you identify those of the most interest to you.

Chapter 1, TxDOT Research Program – presents an overview of this handbook and the research program cycle, and tells you where to find RTI forms and who to contact when you have a question.

Chapter 2, The CRIA – presents an overview of the CRIA and recites the detailed provisions contained in the standard language of each agreement.

Chapter 3, Request for Proposals (RFP) – presents an overview of the RFP process, explains who is eligible to propose on RTI projects, and tells you who you may contact before and after the proposal deadline.

> **Which Parts Should You Read?**
>
> We hope this entire handbook is useful to all university employees involved with TxDOT's research program. We also understand that people have different jobs and needs.
>
> Use the **chapter summary to the left** to help identify which chapters may be most critical to you.
>
> You may also **search the PDF version** of this handbook, available from your University Liaison, or rtimain@txdot.gov, to locate specific topics, wherever they are discussed in the handbook.

> **Before you write a proposal – If you read nothing else, read Chapter 4!**

Chapter 4, Proposal Requirements – explains the submission process for proposals and the documents and contents required in each proposal.

Chapter 5, Project Agreements – explains what happens between the time a proposal is selected and a Project Agreement is executed. Also discusses subcontracts and modifying Project Agreements.

Chapter 6, Managing the Project – discusses Research Supervisor (RS) responsibilities during a project, some of the tools used by both the RS and the PMC to monitor project work, and several issues related to on-going work on the project, such as how to request TxDOT assistance.

Chapter 7, Deliverables – discusses deliverable development and submission requirements.

Chapter 8, University Costs – explains what costs are allowable and how to submit invoices.

Where to Get a Current *University Handbook*

Handbooks are sent electronically to each University Liaison when they are updated. If you have any question about the currency of the handbook you have, send an email request to rtimain@txdot.gov, and the most current handbook will be returned to you.

Maintenance History of this Handbook

Date	Action
Oct. 2009	Draft distributed to University Liaisons for comment
Dec. 2009	Published – Distributed electronically to all University Liaisons and TAP members. Posted on TxDOT's Internet site.
Dec. 2010	• Chapter 4: – Clarified documents accepted in a proposal. – Highlighted more strongly that proprietary information should not be submitted in proposals. – Highlighted more strongly that development of deliverables should take place before the project terminates. • Various chapters – updated subcontract review limit to match CRIA. • Various chapters – updated RTI's email address and phone number. • Posted on Internet, distributed electronically to all University Liaisons & TAP members.

Who to Call if You Have Questions

If you have questions about RTI's policies and procedures in general, you may always contact the RTI Director or Business Manager. If you have questions about what should be happening on a specific project, contact the Contract Specialist or Research Engineer assigned to that project.

If you do not have individual email addresses for RTI employees, you may send an email to rtimain@txdot.gov asking your question, or to request a current RTI contact list. Your question will be forwarded to the appropriate RTI employee for response.

RTI sends an updated contact list to University Liaisons when RTI personnel or work assignments change. The contact list includes several general topics that you may have a question about, and Contract Specialist and Research Engineer assignments.

Section 2: Research Calendar

Annual Research Development Cycle

Most research projects are developed under the cycle shown on the chart below. RTI announces specific dates and provides more specific instructions as activities occur throughout each year. Universities are most directly involved in those activities shown in **bold** below.

Overview of Research Program Development Cycle

These Approximate Dates …	These Major Activities Happen … On Active Projects	To Develop New Projects
August 1		**Problem Statements are due to RTI.**
August		RTI Engineers do an initial evaluation of Problem Statements, including identifying and evaluating on-going or recent related research.
September – October 7	**Project Kick-off meetings are held.**	**TAP meetings are held to review, refine, and rate Problem Statements. During this period all significant technical issues, such as specific deliverables needed and TSD's review of selected Problem Statements are addressed, as much as possible.**
October 20		RTI sends meeting materials to RMCs, including Problem Statements and the results of TAP evaluations.
Late October	RMCs review implementation approach for recently terminated projects.	RMCs meet to select Problem Statements to recommend to the ROC, including those to set aside for underutilized universities.
November – 1st week		♦ RTI distributes call for PMC members throughout TxDOT. ♦ RTI sends meeting materials to ROC.
Mid November	ROC reviews program policies and status of the active program.	ROC selects Problem Statements for the next annual RFP.
Mid November – December 1		Problem Statements are finalized to include ROC input and other outstanding issues.
December 1		Final Problem Statements are due to RTI.
December		RFP package is developed by RTI.
January – 1st week		**RFP is sent to University Liaisons by RTI.**
January 15		PMC nominations are due to RTI.
January 31		♦ PD selections are finalized. ♦ PAs are selected, as practical.
February		**Pre-proposal meetings are held.**
February – March 15		PA selections are finalized.
March 1	**Semi-Annual Progress Reports are due to RTI.**	
March 25		**University proposals are due to RTI.**

Overview of Research Program Development Cycle		
These Approximate Dates …	**These Major Activities Happen …** **On Active Projects**	**To Develop New Projects**
April 1		All responsive proposals are sent to PMCs for technical evaluation.
April	**Modifications are developed by universities, as requested by RTI.**	Proposals are reviewed by Project Monitoring Committees (PMCs).
May 1	**Modifications are due to RTI.**	Proposal selections are due to RTI.
May 5		RTI sends meeting materials to RMCs, including proposal selection and review data.
Mid May	RMCs review implementation approach for terminating projects.	♦ RMCs meet to review proposal selections and recommend new Project Agreements for the coming program year. ♦ RMCs meet to set research priorities for the program that will begin Sept 1, two years following.
Mid – Late May		RTI requests Problem Statements from TxDOT employees and university researchers, to address RMC research priorities.
Mid May – August 1		**TxDOT employees and researchers develop Problem Statements.**
Late May		RTI sends meeting materials to ROC.
Early – Mid June	ROC reviews program policies and status of the active program.	♦ ROC approves new Project Agreements for the coming program year. ♦ ROC may establish additional research priorities for the program that will begin Sept 1, two years following.
Mid June – Mid August		♦ **Project Agreements are finalized and executed by universities and RTI.** ♦ **RTI distributes executed agreements to University Liaisons and PMCs.**
August 31	**Semi-Annual Progress Reports are due to RTI.**	
September 1		New fiscal year program begins.

Implementation Projects

There is no specific development cycle for implementation projects. Most projects stem from products delivered from TxDOT's research program. They become eligible for implementation program funding, if such funding is needed, when they are complete and ready for integration into department operations.

Section 3: RTI Forms

What Forms are Available

Used by TxDOT and university personnel to submit research needs.
- Research Problem Statement

Used by TxDOT personnel to request implementation project funding.
- Implementation Project Recommendation

Used by university personnel to develop project proposals.
- Project Agreement (Cover Page)
- Exhibit A – Itemized Budget
- Exhibit B – Deliverables Table, blank
- Exhibit B – Deliverables Table, example
- Exhibit B – Schedule of Research Activities, blank
- Exhibit B – Schedule of Research Activities, example
- Research Staff and Facilities

> **If you're not sure you have RTI's current forms when you're preparing a proposal …**
>
> - ask your University Liaison, or
> - send an email to rtimain@txdot.gov
>
> See chapter 4 of this handbook for an explanation of the information and forms required in a proposal.

Used by university personnel to modify Project Agreements.
- Modification (Signature Page)
- Modification, example language

Used by university personnel to prepare Semi-Annual Progress Reports.
- Semi-Annual Progress Report

Used by university personnel to request approval for specific out-of-state travel.
- Request for University Out-of-State Travel

Used by university personnel to request assistance from TxDOT for specific project work.
- Request for Research Fund Authorization (RFA)

Used by university personnel to summarize and identify each technical report.
- Technical Report Documentation Page, form DOT F 1700.7

Used by Project Monitoring Committee members to rate each proposal.
- Proposal Review Form

May be used by Project Director in the final proposal selection process.
- Proposal Selection Worksheet

Where to Get Current Forms

RTI sends current forms to all University Liaisons, whenever forms are updated. Current forms are also sent to liaisons with each annual research RFP.

Section 4: Prohibited Conduct

Non-Discrimination

As stated in TxDOT's *Research Manual,* it is TxDOT's policy that no person shall on the grounds of race, color, national origin, sex, age, or disability be excluded from participation in or be denied the benefits of, or otherwise be subjected to discrimination, under any TxDOT program, including the research program. This policy is reflected in all CRIAs, most predominantly in Article 24. Also see articles 22 and 23.

For specific language included in CRIA provisions, see chapter 2 of this handbook.

Gratuities and Lobbying

By signing the CRIA Agreement, your university, or university system, agreed not to offer gifts to TxDOT employees or to influence (lobby) Federal employees. These provisions are contained in Articles 26 and 27 of each CRIA.

Conflict of Interest

Members of research committees may have no direct or indirect financial interest in any project they are evaluating or managing. Nor may they have family, personal, or business relationships with university employees that would create a conflict of interest, or the appearance of a conflict of interest, between their duties as a member of a research committee and their personal or business interests.

Each PMC member, and all RTI employees, are expected to disclose any potential conflicts of interest. Each situation is then evaluated and structured to avoid true or apparent conflicts of interest.

Chapter 2
The CRIA

Section 1: Overview

What is the CRIA

Each Cooperative Research and Implementation Agreement (CRIA) contains the general and standard provisions under which research and implementation programs between TxDOT and a specific university or university system are conducted. CRIAs are executed for TxDOT by TxDOT's Administration. CRIAs executed by a university system cover all members of that system.

A provision in each CRIA is what grants the authority to the Research and Technology Implementation Office (RTI) to execute individual Project Agreements.

Project Agreements describe a specific project to be conducted, by one or more universities, and incorporate by reference the provisions contained in the CRIA(s) under which they are executed. CRIA provisions are summarized below for quick reference. TxDOT's standard language for these provisions is presented in detail in the next section of this chapter.

Why is a CRIA Important?

CRIAs contains the general provisions under which Project Agreements are executed with RTI.

Texas state-supported universities may propose on projects without a CRIA being in place. But Project Agreements can not be executed by RTI without a CRIA being in place for every university represented in the Project Agreement.

TxDOT has CRIAs in place with:
- The Texas A&M University System
- The University of Texas System
- 8 separate Texas universities
- United States Geological Survey

Summary of CRIA Provisions

Cooperative Research and Implementation Agreement Provisions

Article 1 – Nature of the Agreements	Describes Annual Programs and Project Agreements
Article 2 – Contract Period	Establishes the term of the agreement
Article 3 – Notices and Communication to TxDOT	Specifies which office represents TxDOT and provides an address for all notices
Article 4 – Definitions	Defines terms used in the agreement
Article 5 – University Coordination	Requires each university to coordinate programs with its institution
Article 6 – Subcontracts	Provides provisions for subcontracting
Article 7 – Project Approval	Describes the actions that must be taken before a project is considered fully approved
Article 8 – Amendments	Provides provisions for amending the CRIA and Project Agreements
Article 9 – Budget	Establishes budgeting rules and overall amounts for Annual Programs and Independent Projects
Article 10 – Facilities, Equipment and Procurement	Provides requirements for equipment use and procurement, and use of university facilities

Article 11 – Salary and Travel Charges	Establishes rules for such charges
Article 12 – Indirect Cost Charges	Provides provisions for charging indirect costs
Article 13 – Billing and Payment	Establishes billing frequency and allowable costs
Article 14 – Records and Audits	Provides record-retention requirements, and Federal and state audit compliance requirements
Article 15 – Reports and Other Deliverables	Establishes compliance standards for project deliverables
Article 16 – Ownership of Data	Provides for ownership of information developed under projects
Article 17 – Copyrights	Gives rules for copywriting information developed under projects
Article 18 – Patents	Establishes rules for patenting inventions developed under projects
Article 19 – Compliance with Laws	Requires university to comply with all Federal and state laws and regulations
Article 20 – Federal Funds Reports	Establishes rules for university reporting of Federal funds
Article 21 – Roadway Safety	Requires university to comply with the TxDOT safety rules
Article 22 – Equal Employment Opportunity	Requires university compliance with federal EEO requirements
Article 23 – Affirmative Action	Requires university compliance with federal and state affirmative action requirements
Article 24 – Civil Rights	Requires university compliance with federal civil rights statutes
Article 25 – Debarment Certification	Prohibits the university from making any award to debarred individuals or institutions
Article 26 – Gratuity Provisions	Disallows university gifts to TxDOT employees
Article 27 – Lobbying Certification	Requires university compliance with federal lobbying statutes
Article 28 – Buy Texas	Requires the university to give preference to Texas products when project is state funded
Article 29 – Termination of Program or Project	Establishes procedures for termination of all or part of this agreement
Article 30 – Remedies	Sets forth terms for breach of agreement
Article 31 – Severability	Provides that the invalidity or illegality of any provision of this agreement will not affect the other provisions
Article 32 – Prior Agreement Superseded	Provides that previous cooperative agreements relating to this program are superseded
Article 33 – Signatory Warranty	Warrants that the signatories of this agreement have authority to sign
Article 34 – Incorporation	Incorporates various attachments into the agreement

Section 2: Detailed Provisions

Article 1 – Nature of the Agreements

This Cooperative Research and Implementation Agreement (CRIA or Agreement) is the agreement which sets uniform terms and conditions for Annual Programs of Research (APRs), Annual Programs of Implementation (APIs) and Project Agreements (PAs).

An Annual Program may be initiated each fiscal year with any member of the UNIVERSITY for research and / or implementation projects to be conducted during the State fiscal year (beginning on September 1st and ending on August 31st). Projects may also be contracted under the CRIA outside of an Annual Program as Independent Projects. Each project, whether under an Annual Program or not, will be represented by a Project Agreement (PA).

The UNIVERSITY shall develop and submit PAs in accordance with current TxDOT procedures, standards, guidelines, and all applicable state and federal laws based upon project needs as outlined in writing by TxDOT. The UNIVERSITY shall prepare PAs at no cost to TxDOT. TxDOT will provide access to the TxDOT Research and Implementation Manual.

The UNIVERSITY will furnish the qualified staff and equipment necessary to carry out the proposed projects, appoint a supervisor for each project, set forth the project supervisor's responsibilities, and conduct the projects according to the terms and conditions of the PA.

Article 2 – Contract Period

This Agreement becomes effective on the date of final execution by TxDOT and is automatically renewed annually based upon the State fiscal year unless terminated in accordance with the provisions in Article 29.

Article 3 – Notices and Communications to TxDOT

The entity listed in this Article will represent TxDOT in all matters relating to the program, including coordination of Project Agreements under this Agreement. All correspondence to TxDOT, including payment invoices, required under this Agreement shall be delivered to the following address:

Texas Department of Transportation
Research and Technology Implementation Office
P.O. Box 5080
Austin, Texas 78763-5080

Article 4 – Definitions

In this Agreement the following terms have the meanings indicated.

1. **Annual Program –** An established Annual Program of Research or an Annual Program of Implementation, each composed of one or more Project Agreements. Project Agreements in an Annual Program normally share a similar source of funding.

2. **Implementation –** The definition of implementation contained in the TxDOT Research and Implementation Manual.

3. **Independent Project –** A project approved under this Agreement that is not part of an Annual Program. Such projects normally have sources of funding different from TxDOT's legislated budget. Project Agreements funded with 100% federal funding are an example.

4. **Project –** An individual course of research or implementation work outlined in a PA.

5. **Project Agreement (PA) –** The agreement between the UNIVERSITY and TxDOT that contains a detailed statement of the scope of work, budgets, completion deadlines, and required deliverables for an individual project.

6. **Project Supervisor –** A qualified individual, sometimes referred to as the Principal Investigator, assigned by the UNIVERSITY to supervise the UNIVERSITY'S work on a specific project.

7. **Proposal –** The proposed PA submitted by the UNIVERSITY in answer to a TxDOT Request for Proposals (RFP).

8. **Research –** The definition of research contained in the TxDOT Research and Implementation Manual.

9. **Research Management Committee –** TxDOT committee that determines research and implementation projects and programs.

10. **Research Office –** TxDOT office, identified in Article 3, which is responsible for program management.

11. **State Planning and Research (SPR) Program –** A joint FHWA/TxDOT-funded research and implementation program.

12. **Total Program Funding –** The total funding for all currently approved Project Agreements for an individual Annual Program, for a fiscal year, for a UNIVERSITY.

13. **UNIVERSITY –** The institution specifically performing the research or implementation work under one or more Project Agreements. This term is synonymous with the term Performing Agency.

Article 5 – University Coordination

The UNIVERSITY shall ensure that all those having expertise and interest in the various areas of research and implementation are provided an opportunity to participate in this program.

Article 6 – Subcontracts

The UNIVERSITY must receive prior written concurrence from the Research Office for any subcontracts:

(1) in excess of $10,000 for professional research services to be rendered by individuals or organizations not a part of the UNIVERSITY, or;

(2) with any other Texas state university for any amount of funding or duration of a project.

No subcontract will relieve the UNIVERSITY of its responsibilities under an individual Project Agreement or this Agreement. Subcontracts in excess of $25,000 shall contain all required provisions of this Agreement.

Article 7 – Project Approval

A Project is considered approved for a fiscal year once the UNIVERSITY is provided a letter from the Research Office (the Activation Letter) approving the Project and setting forth the approval date, the annual project budget, and whether or not the Project is part of an Annual Program or is an Independent Project (refer to Article 9).

Article 8 – Amendments

Any changes to this CRIA, or a PA, including any additions or deletions to a Project Agreement, shall be made through written amendment to the respective agreement executed by all parties. An amendment to a PA shall be made within the PA's fiscal year and shall be executed prior to performance of any work being authorized by the amendment.

Article 9 – Budget

A. Annual Programs – This Agreement provides for an Annual Program of Research and an Annual Program of Implementation between the UNIVERSITY and TxDOT. It also establishes rules for expenditures by individual UNIVERSITIES under their individual Annual Programs.

The Total Program Funding for the UNIVERSITY'S Annual Programs shall not exceed the following:

Annual Program of Research	$15,000,000
Annual Program of Implementation	$5,000,000

Size of actual programs will be limited so that expenditures do not exceed appropriated funds.

Billings from a UNIVERSITY for an individual Project Agreement which is assigned to an Annual Program may exceed the UNIVERSITY'S fiscal year budget for that individual Project Agreement by up to 10% or $20,000 (whichever is less) without modification of the PA. The UNIVERSITY'S total billings for a fiscal year for all Project Agreements under an individual Annual Program, however, shall not exceed the UNIVERSITY'S Total Program Funding for that Annual Program.

B. Independent Projects – This Agreement also provides for research and implementation projects to be undertaken by a UNIVERSITY independent of an Annual Program. The total level of funding, for a fiscal year, of all such Independent Projects of each type, for each UNIVERSITY shall not exceed:

Independent Research Projects	$10,000,000
Independent Implementation Projects	$2,000,000

Billings from the UNIVERSITY for an Independent Project cannot be in excess of the UNIVERSITY'S fiscal year budget for the project without prior modification of the PA.

Article 10 – Facilities, Equipment and Procurement

The laboratories of the UNIVERSITY shall be available for the proposed scope of work under any program without rental or depreciation charges.

The UNIVERSITY'S equipment procurement, use and management procedures shall meet or exceed the requirements of 49 CFR 19.34 and the Texas State Property Accounting Standard. To the extent there is any conflict between the CFR and the Texas State Property Accounting Standard, 49 CFR 19.34 will govern. Any necessary maintenance or repair costs of equipment used on a project covered by this agreement shall be billed for reimbursement from TxDOT under the appropriate Project Agreement.

Fair rental costs as well as necessary maintenance and repair costs of equipment used in project work covered by this agreement may be billed for reimbursement from TxDOT under the appropriate Project Agreement.

Article 11 – Salary and Travel Charges

All salaries for personnel involved in work under this agreement, and all travel expenditures, shall be governed by the rules and regulations of the UNIVERSITY. All salaries and travel chargeable to the Project Agreement shall be limited to that necessary for the accomplishment of the project objectives or for attendance at meetings or conferences otherwise concerned with, and beneficial to, TxDOT's Cooperative Research and Implementation Programs.

For all out-of-state travel, the UNIVERSITY shall obtain TxDOT approval prior to the travel if the travel is to be charged to TxDOT. TxDOT approval shall be obtained by official submission of the appropriate travel request by the UNIVERSITY to the Research Office. To ensure adequate time for TxDOT review, the UNIVERSITY will use its best effort to submit travel requests to the Research Office at least ten (10) business days prior to the date of travel.

Article 12 – Indirect Cost Charges

Each PA shall contain the University indirect cost rate. The indirect cost rate for a Project Agreement can be changed only by modification of the PA.

Independent Projects – Independent Projects may have indirect cost rates as agreed to on a Project Agreement-by-Project Agreement basis between TxDOT and the UNIVERSITY. The indirect cost rate charged by the UNIVERSITY must meet the requirements of OMB Circular A-21.

Annual Program Projects – Unless otherwise specified in the PA, there may be applied to each Project Agreement an indirect cost charge not to exceed 10%.

Annual Program and Independent Projects – Indirect cost rates for all Project Agreements will be applied to all reimbursable expenses, except for that portion of each subcontract in excess of $25,000 and equipment purchases equal to or exceeding $5,000. The UNIVERSITY shall not separate equipment-component purchases into two or more separate purchase orders if the purchase can be made on a single purchase order. The indirect cost rate on subcontracts shall be in accordance with OMB Circular A-21, but shall not be more than 10% unless otherwise provided on the Project Agreement.

Article 13 – Billing and Payment

The UNIVERSITY is authorized to submit periodic requests for payment. Billings shall not be more often than monthly nor less frequently than quarterly unless previously approved by the Research Office. The billings shall conform to the procedures outlined in the current TxDOT Research and Implementation Manual. Reimbursement of any Project Agreement costs by TxDOT will be limited to costs determined to be reasonable and allowable under cost principles established in OMB Circular A-21, “Cost Principles for Educational Institutions.” The State shall make payment to the UNIVERSITY based on the UNIVERSITY’S cost of actual services performed under a Project Agreement. Billings in excess of the Project Agreement budget or outside of the approved term of the Project Agreement will not be payable except as provided in Article 9. A billing or credit may not be submitted for less than $25.00 except at the time of final billing.

Article 14 – Records and Audits

The UNIVERSITY shall comply with relevant OMB audit provisions. The UNIVERSITY will comply with OMB Circular A-133 beginning in Texas fiscal year 2001. The UNIVERSITY shall maintain financial records, supporting documents, statistical records, and all other records pertaining to the Project Agreements under this Agreement for a period of four (4) years from the date of final Project Agreement payment, with the following exceptions:

A. If any litigation, claim, or audit is started before the expiration of the four-year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved.

B. Records of non-expendable equipment (items that cost $5,000 or more) acquired with federal or TxDOT funds shall be retained for four years after final disposition of the equipment.

If any inspection or evaluation is made on the premises of the UNIVERSITY or any subcontractor, the UNIVERSITY shall provide, and require any subcontractor to provide, all reasonable facilities and assistance for the safety and convenience of the inspectors in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work of the UNIVERSITY or subcontractor.

The U.S. Secretary of Transportation, the Comptroller General of the United States, the Executive Director of TxDOT, and the Texas State Auditor, or any of their duly authorized representatives, shall have access to the records described above during the Project Agreement period and for the periods set forth above for the purpose of making audits, examinations, excerpts, and transcripts.

The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. Under the direction of the legislative audit committee, an entity that is the subject of an audit or investigation by the state auditor must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

Article 15 – Reports and Other Deliverables

The UNIVERSITY shall comply with current TxDOT procedures for project reports and other deliverables as outlined in the TxDOT Research and Implementation Manual.

Article 16 – Ownership Of Data

The ownership of all information developed under any Project Agreement under this Agreement, (e.g., data, recommendations, and such documentation as summaries, charts, reports, etc.) shall be vested jointly in the UNIVERSITY and TxDOT. To the extent authorized by the Texas Public Information Act, neither oral nor written releases containing the information developed will be made prior to acceptance and approval of the report due under the PA without approval of the information by the UNIVERSITY, the Research Office, and other project sponsors.

Upon default of a Project by the UNIVERSITY, the ownership of all information developed under the Project Agreement shall remain vested jointly in the UNIVERSITY and TxDOT.

Article 17 – Copyrights

The UNIVERSITY shall be free to copyright all materials (including software) which are developed in the course or pursuant to the Agreement. The UNIVERSITY hereby grants TxDOT and, in the case of U. S. Government funding of a Project Agreement, the U. S. Government, an irrevocable, non-exclusive, nontransferable and royalty-free license to use, reproduce, publish, revise, make deposition of, prepare derivative works, distribute to the public, and to perform and publicly display, and authorize others to do likewise for or on behalf of the United States and TxDOT according to law, any material (including software) that may be developed as part of the work under this Agreement.

Article 18 – Patents

A. The UNIVERSITY agrees to comply with the provisions of 37 CFR 401 governing patents and inventions, coordinated through the Research Office. The UNIVERSITY shall include, or incorporate by reference, the standard clause at 37 CFR 401.14 in all agreements or subcontracts with non-profit organizations or small business firms as defined in 37 CFR 401.14. The UNIVERSITY or any subcontractor will retain all rights provided for TxDOT under this clause, and TxDOT will not, as part of the consideration for awarding the agreement, obtain rights in the UNIVERSITY'S or any subcontractor's inventions. However, if the UNIVERSITY or the subcontractor chooses not to exercise patentable rights, then TxDOT may apply for and obtain any patents related to any Project Agreements under this Agreement.

B. If patentable discoveries or inventions should result from a Project Agreement covered by this Agreement, the UNIVERSITY does hereby grant TxDOT and the U.S. Government, if the Project Agreement is funded by U. S. Government funds, an irrevocable, paid-up, non-exclusive, nontransferable, royalty-free, worldwide license to practice, or have practiced for or on behalf of the United States and TxDOT, any subject invention that may be developed as part of the work under this Agreement. The cost of preparing disclosures, reports, and other special documents that may be required to meet the requirements of this provision shall not be charged to TxDOT.

Article 19 – Compliance with Laws

The UNIVERSITY shall comply with all applicable Federal, State and local laws, statutes, codes, ordinances, rules and regulations, current procedures pertaining to the use of federal and/or state research and implementation funds in the conduct of the Projects under this Agreement, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Agreement. When required, the UNIVERSITY shall furnish TxDOT with satisfactory proof of its compliance.

The UNIVERSITY further agrees to comply with the requirements contained in TxDOT's Research and Implementation Manual.

Article 20 – Federal Funds Reports

The UNIVERSITY is a contractor with respect to this Agreement and therefore should not report federal revenues, expenditures, receipts, and/or disbursements in its financial statements. The federal source of funding (Catalogue of Federal Domestic Assistance Number 'CFDA') for this agreement is 20.205.

Article 21 – Roadway Safety

The UNIVERSITY agrees to follow all safety rules while working on State rights of way as prescribed in TxDOT publication, "Handbook of Safe Practices." This includes the wearing of appropriate attire, such as hard hats, safety vests, and safety shoes. Copies of the publication are available from the Research Office.

Article 22 – Equal Employment Opportunity

The UNIVERSITY agrees to comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented by Department of Labor regulations (41 CFR Part 60).

The UNIVERSITY agrees to consider working with minority universities when the opportunity exists.

Article 23 – Affirmative Action

The UNIVERSITY warrants that it has developed and has on file appropriate affirmative action programs as required by applicable federal and state rules, regulations and laws.

Article 24 – Civil Rights

1. **Compliance with Regulations**: The UNIVERSITY shall comply with the regulations relative to nondiscrimination in federally-assisted programs of the U.S. Department of Transportation: Title 49, Code of Federal Regulations, Part 21; Title 23, Code of Federal Regulations, subchapter C, Title 41, Code of Federal Regulations, Part 60-74 as they may be amended periodically.

2. **Nondiscrimination**: The UNIVERSITY, with regard to the work performed during this Agreement, shall not discriminate on the grounds of race, color, sex, national origin or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The UNIVERSITY shall not participate either directly or indirectly in the discrimination prohibited by Title 23, Code of Federal Regulations, Subchapter C, and Part 60-741 of the Regulations, including employment practices when this Agreement covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**: In all solicitations either by competitive bidding or negotiation made by the UNIVERSITY for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the UNIVERSITY of the UNIVERSITY'S obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, sex, national origin, or disability.

4. **Information and Reports**: The UNIVERSITY shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Texas Department of Transportation or the U.S. Department of Transportation to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of the UNIVERSITY is in the exclusive possession of another who fails or refuses to furnish this information, the UNIVERSITY shall so certify to the Texas Department of Transportation or the U.S. Department of Transportation, whichever is appropriate, and shall set forth what efforts the UNIVERSITY has made to obtain the requested information.

5. **Sanctions for Noncompliance**: In the event of the UNIVERSITY'S noncompliance with the nondiscrimination provisions of this Agreement, the Texas Department of Transportation shall impose such sanctions as it or the U.S. Department of Transportation may determine to be appropriate, including but not limited to: withholding of payments to the UNIVERSITY under the Agreement until the UNIVERSITY complies, and/or cancellation, termination, or suspension of the Agreement in whole or in part.

6. **Incorporation of Provisions**: The UNIVERSITY shall 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. The UNIVERSITY shall take such action with respect to any subcontract or procurement as the Texas Department of

Transportation may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event a UNIVERSITY becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the UNIVERSITY may request the Texas Department of Transportation to enter into such litigation to protect the interests of the State; in addition, the UNIVERSITY may request the United States to enter into such litigation to protect the interests of the United States.

Article 25 – Debarment Certification

The UNIVERSITY is prohibited from making any award or permitting any award at any tier to any party which is debarred or suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549, "Debarment and Suspension." The UNIVERSITY shall require any party to a subcontract or purchase order awarded under this Agreement as specified in 49 CFR Part 29 (Debarment and Suspension) to certify its eligibility to receive federal funds and, when requested by TxDOT, to furnish a copy of the certification. The UNIVERSITY shall certify compliance with the certification, attached as Attachment B, by signing the debarment certification.

Article 26 – Gratuity Provisions

UNIVERSITIES are expected, as a minimum, to follow their own ethics policies.

Texas Transportation Commission policy mandates that employees of TxDOT shall not accept any benefits, gifts, or favors from any person doing business or who reasonably speaking may do business with TxDOT under this Agreement. Any person doing business with TxDOT under this Agreement may not make any offer of benefits, gifts, or favors to TxDOT employees, except as otherwise may be permitted by law. Failure on the part of the UNIVERSITY to adhere to this policy may result in the termination of this Agreement.

Article 27 – Lobbying Certification

The UNIVERSITY shall comply with the "Lobbying Certification \ Disclosure Form" in federal aid agreements in excess of $100,000 or subcontracts in excess of $100,000, identified as Attachment A.

Article 28 – Buy Texas

For projects that do not include federal funds, the UNIVERSITY shall comply with Government Code, Title 10, Section 2155.444, "Preference to Texas and United States Products." When requested by TxDOT, the UNIVERSITY shall furnish documentation of the purchases or a description of good faith efforts to do so.

Article 29 – Termination of Program or Project

A. Either party may terminate this Agreement in part or in whole at any time whenever it is determined that the other party has failed to comply with the conditions of the Agreement. To terminate a CRIA, the terminating party shall give written notice to the other party at least one (1) year prior to the effective date of termination. To terminate a PA, the terminating party shall give written notice to the other party at least sixty (60) days prior to the effective date of termination. Such written notice shall specify the effective date of termination and the reason for the termination.

B. If both parties agree that the continuation of this Agreement in whole or in part would not produce beneficial results commensurate with the further expenditure of funds, the parties shall agree upon termination conditions, including the effective date and, in the case of partial termination, the portion to be terminated.

If TxDOT concludes that continuation of a Project Agreement into the next fiscal year, in whole or in part, would not produce beneficial results commensurate with the further expenditure of funds, the Project Agreement may be terminated.

If both parties conclude that continuation of a Project Agreement for the remainder of a fiscal year, in whole or in part, would not produce beneficial results commensurate with the further expenditure of funds, the Project Agreement may be terminated.

When Project Agreements are terminated prior to scheduled completion, TxDOT will make every effort to minimize adverse impact on the UNIVERSITY, including graduate students currently involved in the work.

C. Upon termination of this Agreement or a Project Agreement, whether for cause or at the convenience of the parties hereto, all finished or unfinished documents, data, studies, surveys, reports, computer software, maps, drawings, models, photographs, etc., prepared by the UNIVERSITY shall, at the option of TxDOT, be delivered to TxDOT. The UNIVERSITY may keep copies.

D. Notwithstanding those costs identified as non-reimbursable, TxDOT shall compensate the UNIVERSITY for those eligible expenses incurred up to the effective date of termination during the Agreement period which are directly attributable to the work covered by this Agreement or a Project Agreement. The UNIVERSITY shall not incur new obligations for the terminated portion after the effective termination date.

E. Except with respect to defaults of subcontractors, the UNIVERSITY shall not be in default by reason of any failure in performance of this Agreement or a Project Agreement in accordance with its terms (including any failure by the UNIVERSITY to progress in the performance of the work) if such failure arises out of causes beyond the control and without the default or negligence of the UNIVERSITY. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather. Such causes shall be documented in writing to TxDOT.

Article 30 – Remedies

Violation or breach of terms by the UNIVERSITY, except as set forth in Article 29E, shall be grounds for termination of the Agreement and any costs incurred as a result of the UNIVERSITY’S default, breach of agreement, or violation of terms shall not be reimbursed by TxDOT.

Article 31 – Severability

In the event any one or more of the provisions contained in this Agreement or a Project Agreement shall for any reason, be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Article 32 – Prior Agreement Superseded

This Agreement constitutes the sole Agreement of the parties hereto and supersedes any prior understandings or written or oral agreements between the parties respecting the subject matter defined herein.

Article 33 – Signatory Warranty

The undersigned signatory on behalf of the UNIVERSITY hereby represents and warrants that she or he has full and complete authority to enter into this Agreement on behalf of the organization.

Article 34 – Incorporation

Attachments A through B are hereby incorporated into this Agreement by reference.

Attachment A – Certification for Contracts, Grants, Loans, and Cooperative Agreements: The undersigned certifies to the best of his or her knowledge and belief that:

1. No federal appropriated funds have been paid or will be paid by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. If any funds other than federal appropriated funds have been paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Attachment B – Debarment Certification:

(1) The UNIVERSITY certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state, or local) with commission of any of the offenses enumerated in paragraph (1)(b) or this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (federal, state, or local) terminated for cause or default.

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

(2) Where the UNIVERSITY is unable to certify to any of the statements in this certification, such UNIVERSITY shall attach an explanation to this certification.

Chapter 3
Request for Proposals (RFP)

Section 1: Types of RFPs

Competitive

Requests for Proposals (RFPs) for TxDOT research projects are almost always competitive. The development of competitive research RFPs follows the course below.

- Problem Statements are approved by the appropriate TxDOT research committee.
- RTI addresses administrative issues, and converts each Problem Statement into a final Project Statement.
- RTI distributes each RFP to Texas state-supported universities who have named a University Liaison to TxDOT's research program.

Researchers – Your University Liaison is your point of contact for RFP information, and for submitting proposals to RTI.

If you don't know who that person is – send a message to rtimain@txdot.gov.

Although not common, a competitive RFP for an implementation project may be issued. In those cases, the development and distribution of the RFP mirrors that for competitive research projects, but is based on an approved Implementation Project Recommendation (IPR).

Non-Competitive

Most RFPs for TxDOT implementation projects are approved by TxDOT's Administration for a non-competitive award to the university(s) that performed the work the implementation project is based on. RTI sends each non-competitive implementation RFP, along with an approved Implementation Project Recommendation only to the appropriate University Liaison.

Although not common, with approval from TxDOT's Administration, some research project RFPs are non-competitive. RTI distributes such RFPs only to the appropriate University Liaison.

Requirements Common to Both Types of RFPs

There are several factors common to both competitive and non-competitive RFPs.

- Proposals are accepted only in response to an RFP distributed by RTI. Unsolicited proposals are not accepted.
- Proposals are accepted only from eligible proposers.
- Each RFP contains a deadline by which a proposal must be received in RTI to be accepted for evaluation.
- Each proposal must meet the minimum requirements stated in TxDOT's *Research Manual* and this handbook to be accepted for evaluation.

Make Sure You Look for These Important Items in each RFP

- Deadline for proposal submission
- Proposal requirements
- Project requirements (Project Statement or IPR)
- Current RTI forms (with annual research RFP)
- Addresses for proposal submission – email (rtimain@txdot.gov) is preferred

Section 2: Eligible Proposers

All Projects

TxDOT's *Research Manual* expresses current policy on who is eligible to propose on research and implementation projects managed by RTI. You are encouraged to review that information in Chapter 5, Section 3, *Project Proposals* of the manual. The focus box to the right repeats the fundamental policies that you should keep in mind as you consider preparing a proposal.

Are You Eligible to Propose?

- Proposals are accepted only from Texas state-supported universities.
- Proposals that include partnerships with other entities will be considered only when the appropriate expertise is not available from a Texas state-supported university.
- Proposals are not accepted that include any research team member with "seriously late" deliverables.
- For projects in the "**underutilized**" RFP:
  - An underutilized university must lead the project.
  - At least 50% of the project work must be performed by an underutilized university(s).

"Underutilized" RFP

The *Research Manual* also discusses which universities are eligible to propose on projects set aside for Texas state-supported universities classified as underutilized by TxDOT's research program. RTI distributes a list of "underutilized" universities with the annual research RFP for each program year.

Joining with Texas State-Supported Universities

When two or more Texas state-supported universities team up on a project, RTI calls it a "joint" project. The standards below apply.

- One, and only one, of the researchers (or principal investigators) is designated by the research team as the Research Supervisor (RS). The RS:
  - is clearly identified on the Cover Page of the Project Agreement,
  - can only be changed by modifying the Project Agreement,
  - is responsible for ensuring that the project Deliverables Table and Schedule of Research Activities are adhered to,
  - is responsible for submitting progress reports covering all project activities, and
  - is ultimately responsible to TxDOT for the conduct of the project and all required deliverables.
- The Work Plan and Schedule of Research Activities clearly assign each work task to one or more universities on the research team.
- The proposal includes an Itemized Budget for each university, for each year of the project.

If you propose to Subcontract more than $10,000 …
You run the risk of your proposal not being considered, if a competitor submits a good proposal with that work done by a Texas state-supported university(s).

Joining with Other Entities

If you bring an entity other than a Texas state-supported university onto your research team, your university is responsible for subcontracting with that entity. This includes any out-of-state university or a private entity performing research work.

Section 3: Communications With TxDOT

During the RFP Period

> **If you have a question about a specific project …**
> Contact the person named on that Project Statement, or ask the question in a pre-proposal meeting.
>
> Don’t call the Project Director.
> Don’t call any other RTI employee.

During the open period of the RFP, questions about RTI’s policies or procedures associated with the RFP may be posed to the contact person named in the RFP email, or to any RTI employee knowledgeable about the subject. This period includes the entire time between distribution of the RFP by RTI and the proposal deadline.

Questions about the scope or other attributes of a specific project should be posed only to the contact person named on that specific Project Statement, or in a pre-proposal meeting. Each member of the PMC signs a non-disclosure agreement, agreeing not to respond to researcher questions during this period, except at a pre-proposal meeting.

Announcement of Selections

Although each Project Director selects the proposal to recommend to the RMC, the Project Director does not have final approval. The approval process is described in chapter 5 of this handbook.

After the RMC approves proposal selections and the ROC approves which projects will be funded from the annual RFP, RTI announces the final proposal selections – to all University Liaisons. The non-disclosure agreement signed by PMC members includes an agreement not to disclose information about the status of proposals to university researchers.

> **To obtain the review comments for your proposal …**
> Contact your University Liaison a few weeks after final selections are announced. RTI sends these out without you having to ask.
>
> Or ask RTI (rtimain@txdot.gov) about the status of the distribution.
>
> Don’t call the Project Director.

Proposal Review Comments

After the final approval of proposal selections, RTI sends reviewers’ comments and scores for each proposal to the lead university who submitted that proposal. As it takes some time to sort the material, and ensure it is complete, you should expect to receive this information several weeks after proposal selections are announced. In a non-disclosure agreement, each PMC member agrees to refer all requests for evaluation information or materials to RTI for response.

Chapter 4
Proposal Requirements

Section 1: Submission Format and Deadline

Required Format for Submission

Current Forms – Proposals should be submitted on current RTI forms. Proposals will be accepted on outdated forms, if they contain all the information currently required. However, Project Agreements will not be executed until at least the Cover Page of each agreement has been developed on the current RTI form.

RTI sends current forms to University Liaisons as they are updated, and with each annual RFP. Any form customized by a university, for their institution or a specific project, must be consistent with, and contain at least the information required on the current RTI form.

Electronic Format – All proposals are required to be submitted in PDF format (1 PDF file per proposal). The file may be submitted by email to rtimain@txdot.gov if the email and attachment together are smaller than 15 megabytes.

Larger files may be sent to rtimain@txdot.gov through TxDOT's dropbox service, available at https://ftp.dot.state.tx.us/dropbox.

If you choose to submit a CD with duplicate copies of files also sent electronically, note clearly on the CD that they are duplicates. Otherwise, it simply slows down proposal receipt processing in RTI.

Even if another format is submitted to meet the deadline, an identical PDF copy must be provided by the university within 1 day after the deadline.

> **Critical Reminders About Proposals**
>
> **Researchers –** Submit your proposals through your University Liaison, who will help you meet RTI's current requirements.
>
> **Use current RTI forms –** Current forms are distributed by RTI with every annual RFP.
>
> **Submit only 1 PDF file for each proposal.**
>
> **Double check the email address in the RFP** – Proposals sent to a non-existent email address can not be delivered, and TxDOT's email server will not notify you of the error.
>
> **If you resubmit a proposal** – Your last submission by email before the deadline will be taken as your proposal, unless you instruct otherwise, before the deadline.
>
> **If you don't hear from RTI within 1 day –** Send a message to rtimain@txdot.gov or call 512-416-4730 to check on your proposal, while there is still time to try again.
>
> **Double check the Deadline!**
>
> **Make sure you have all the required forms!**
>
> **Don't wait until the last minute!**

Meeting the Deadline

Timeframe – The date and time that proposals are due is set by RTI and is displayed prominently in the RFP instructions, and included on each Project Statement.

> **Never send a proposal to an individual's email address in RTI!**
>
> **You are responsible for getting it to rtimain@txdot.gov before the deadline.**

Responsibility for Delivery of Proposals – Your university is responsible for ensuring the timely arrival of each proposal at RTI. Failure of email or fax equipment, the post office, or courier service will not be reasons for acceptance of a proposal after the date and time established. No exceptions will be made.

Confirmation of Receipt – RTI confirms receipt of proposals received at the correct email address, within 1 day of receipt. TxDOT's email system does not provide for an automated return receipt. Nor does it reply to messages sent to non-existent email addresses to alert you to the error. If you do not receive a confirmation within 1 day, double check to make sure you sent the proposal to the right email address.

Your Proposal is Kept Secured After it Gets to RTI

All proposals received in RTI are secured until the proposal submission deadline has passed. No evaluators, nor other proposers, can access them.

Advantages of Email Submission

- Quicker and more dependable
- RTI confirms receipt of the file
- More secure
- Distribution process to evaluators is quicker, more efficient, and more secure.

Delivery Methods and Locations – The acceptable methods and addresses for delivery of proposals are included in the RFP instructions distributed by RTI. Proposals must be received before the deadline at one of these addresses to be accepted.

Email Submissions – Email submissions will be accepted if RTI can obtain documented evidence that a proposal was sent to the correct email address and was received by TxDOT's Internet mail server before the deadline.

FAX Submissions – FAX submissions attempted close to the deadline may fail due to a busy signal at RTI, and will not be accepted unless successfully received in RTI before the deadline.

Hardcopy Submissions **–** At the university's option, a single hard copy of a proposal may be sent to RTI for the sole purpose of meeting the submission deadline. Submission of a PDF copy, with identical information, is then required within 1 day after the deadline.

Section 2: Required Documents

Overview

The documents listed below are required in every proposal, in the order shown below. Some are so critical a proposal will not be accepted without them, as stated to the right.

- Cover Page (on an RTI form)
- Itemized Budget, Exhibit A (on an RTI form)
- Project Description, Exhibit B, consisting of:
  - Project Abstract,
  - Implementation (optional section),
  - Work Plan,
  - Identification of Information Technology (IT) Deliverables to TxDOT,
  - Assistance or Involvement by TxDOT,
  - Deliverables Table (on an RTI form), and
  - Schedule of Research Activities (on an RTI form).
- Background and Significance of Work
- Research Staff and Facilities (on an RTI form)

Documents beyond those listed above will not be accepted.

Examples (not all inclusive) of additional documents that will **not** be accepted include:

- Reference Lists – If submitted, include in Background and Significance of Work.
- Resumes – Include all relevant information on the Research Staff and Facilities form.
- Letters of intent from subcontractors or suppliers.

Don't Let a Missing Document Knock Out Your Proposal!

A proposal should include all required documents – An incomplete proposal may be missing information that is critical to clearly explain your proposal to the individuals who will do the technical evaluations.

A proposal MUST include at least these documents to be accepted for technical evaluation.

- **Cover Page**
- **Work Plan**
- **Deliverables Table**
- **Schedule of Research Activities**
- **Research Staff and Facilities**

If any of the 5 documents listed above are omitted from a proposal, the proposal will be deemed non-responsive and will not be accepted for technical evaluation. If that happens, technical evaluators will never have a chance to see your proposal.

Required documents are discussed in detail in the remainder of this chapter.

Write Like You Mean It

If your proposal is selected – the Cover Page, Exhibit A, and Exhibit B will become the Project Agreement, after final revisions.

To minimize revisions – be clear, complete, and concise when you write these sections, do not add extraneous material, and be direct. Use phrases like – "we will", rather than "we propose to" or "the proposed project will".

Where to get RTI Forms

RTI sends forms to all University Liaisons as they are updated. Current forms are also sent with each annual RFP. If you have a question about whether the forms you have are current, send your question to RTI's central email box – rtimain@txdot.gov.

Section 3: Cover Page

Elements of the Cover (Signature) Page

The Cover Page serves as the signature page for a Project Agreement and should always be prepared using the current RTI form. Proposals submitted without Cover Pages will be considered non-responsive and will not be accepted for technical evaluation. Each Cover Page includes the elements discussed below.

- **RMC** – Enter the Research Management Committee from the Project Statement.
- **Fiscal Year** – Also from the Project Statement.
- **Heading** – Labels the document as a "Project Agreement" and identifies the performing agency(s). List all the agencies that will be involved in the project, Lead Agency first.
- **Research or Implementation Project** – Check the appropriate box to indicate the type of project.
- **Project Number** – Enter the project number from the Project Statement included in the RFP. Project numbers consist of the following:
  - **Prefix** – TxDOT code (typically a number) depicting the type of project.
  - **Number** – a number (or numbers and letters) that identifies the specific project. This number is unique within a specific prefix.
  - **Task** – a number(s) or letter(s), if used. This may signify that the project is a separate project within a larger effort, that the project is for a specific fiscal year, or designate a university when more than 1 university is separately conducting related projects. "Task" here does not refer to the tasks or objectives in a project's Work Plan.
- **Document Date** – Enter the date the document is prepared. This uniquely identifies this version of the agreement, and will be referenced when the final Project Agreement is activated. The date initially entered here is the date the proposal is prepared. That date must be changed if the proposed Project Agreement is modified before execution.
- **Project Title** – Enter the project title from the Project Statement included in the RFP.
- **First Paragraph** – Specifies the general terms and conditions under which the Project Agreement is made, identifies the contracting parties, and identifies the project as included in an Annual Program, or as an Independent Project. Check the appropriate box and enter the performing agency(s).

Completing the Cover Page

Most items on the Cover Page are self-explanatory. Simply fill in information specific to your university(s).

Info for these items is found on the Project Statement or IPR, or in the RFP message:

- RMC
- Fiscal Year
- Research or Implementation Project
- Project Number and Title
- Annual Program or Independent Project

You should not need to delete material from the form, as unused lines in parts III and IV may be left blank.

Resist the urge to change the standard language on the RTI form and always use the current form.

- **Part I. Project Description –** This paragraph incorporates Exhibit B, the description of the specific work needed, into the Project Agreement. You should make no changes to this language.

- **Part II. Project Duration and Performance Period –** This section states that project work is not approved, and that no work should be performed, for any fiscal year, until RTI issues either an initial or continuation Activation Letter to the university. You should make no changes to the language in this section, other than to insert a proposed Project Termination Date to be considered during proposal review. This date sets the proposed project duration.

- **Part III. Project Budget –** This section includes an estimated total project budget for each performing agency, for each proposed fiscal year. A detailed budget for each agency for each fiscal year is attached as Exhibit A. This paragraph incorporates all Exhibit As into the Project Agreement. If there is a discrepancy between the total budget on an Exhibit A for any agency and the amount shown on the Cover Page for that agency, the amount shown on the Cover Page will be used during the initial evaluation of the proposal.

- **Total Project Budget –** This is the total of the proposed annual project budgets for all performing agencies. Once the project is activated, this can be changed only by modification of the Project Agreement. If there is a discrepancy between the annual budgets shown and the total project budget, the total project budget, as shown, is used during initial evaluation of the proposal. Any discrepancy will be resolved before a Project Agreement is executed.

- **Part IV. Project Supervision –** The Research Supervisor (RS) is identified here, which also then specifies the lead agency on a joint project. Other primary researchers on the project should also be identified, including at least one researcher from each performing agency. The lead researcher at each agency may be identified as that agency's Principal Investigator (PI). Information about each researcher, including contact information, is also required here.

> **Changing the RS –** requires a Modification to the Project Agreement.
> **Changing other researchers named here, on the budget, or in Exhibit B –** requires approval from RTI.

- **Part V. No Waiver –** This paragraph incorporates all the applicable provisions of the CRIA into the Project Agreement. You should make no changes to this language.

- **Approved (Performing Agency) –** Include a signature block for each university on the project, including each signatory's official title and agency.

- **Approved (TxDOT) –** A signature block is included for the Director of the Research and Technology Implementation Office, to execute the agreement for TxDOT.

- **Page Numbering –** The cover page is always the first part of the Project Agreement, followed by Exhibit A, and then Exhibit B. Each of these portions of the Project Agreement is page numbered separately, and includes on each page a note of the total pages in that portion. The page numbering for the cover page usually begins with "1 of 2" . If Exhibit A includes only one page, it is numbered "1 of 1". All of Exhibit B, which includes several different sections, is numbered as one document, beginning with "1 of X".

Section 4: Exhibit A

Overview

Each proposal should include a separate **Itemized Budget – Exhibit A** for each performing agency(s) on a project, for each year of the proposed project. "Total Project Cost" on each Itemized Budget sets the maximum contract amount between TxDOT and that performing agency – for that fiscal year.

Estimating Individual Cost Items

Each Itemized Budget should include the best estimates available for individual cost items.

During a project, a university may move funding between cost items, or add cost items, within the Itemized Budget for that fiscal year without TxDOT approval, as long as the total project cost for that year does not change. A revised Itemized Budget is not required in these instances.

However, adding certain cost items, such as equipment, subcontracts, and out-of-state travel, may require specific TxDOT approval prior to the expenditure, as discussed later in this handbook. Such approval may be documented in any written form, including, at the university's option, on a revised Itemized Budget.

To Develop a Proposed Budget …

Make your best estimates, but also:

Understand the commitments you are making – You are committing to do the work proposed, within the total cost proposed for each year. You are committing to complete the entire Work Plan within the total project budget you propose.

Understand the flexibility you have, should you get the project – TxDOT realizes that the assumptions used to estimate individual cost items may change as the project progresses. So you have the ability to move funding between cost items, or add cost items, subject to the approval requirements stated elsewhere in this handbook for equipment, subcontracts, and out-of-state travel.

Remember that budget funds not used in one year do not roll to the next year.

Heading Elements on an Itemized Budget

The elements discussed below are included at the top of each Itemized Budget – Exhibit A. Some of the information comes from the project document attached to the RFP. Some is developed at your university(s).

From the Project Statement or Implementation Project Recommendation:
- **RMC**
- **Fiscal Year**
- **Project Number**

Developed by Your University(s):
- **Agency** – The name of the university for whom the budget is proposed.
- **Indirect Rate** – The limit on this rate is controlled by Article 12 in the CRIA.
- **Revision Date** – Leave this field blank in a proposal, as the original document date of each Itemized Budget is taken from the document date on the Cover Page of the proposed agreement. When the university makes a change within the budget that does not require TxDOT approval, such as moving funds from one cost item to another, a revised Itemized Budget may be sent to RTI, for RTI's information, with the date of the revision noted here.

Direct Costs

Include only those costs specifically identifiable to the project, or allocated to the project through a method that has been reviewed and approved for federally funded projects.

- **Salaries and Wages –** Show estimated budget totals for salaries and wages for full and part-time personnel under these categories:
  - Professional
  - Sub-professional and technical
  - Clerical

  Under the Itemization column, show the % of work time each professional is expected to spend on the project during the fiscal year.

Individuals named here can only be changed with a Mod (the RS) or RTI's approval.

- **Fringe Benefits –** Calculate these by your university's policies. They are typically calculated as a percentage of salaries and wages.

- **Expendable Goods and Supplies –** Although not required, itemizing significant costs may help explain a large budget in this category. Following are examples of items that may be included, as long as they are directly identifiable with the project:
  - Office supplies, including reproduction supplies
  - Minor parts and materials
  - Minor equipment
  - Electrical, plumbing, and building supplies
  - Laboratory supplies

- **Operating & Other Expenses –** Several different types of costs may be included here. Show the expenses as either "included" or "excluded" from Modified Total Direct Costs. This determination is made based on OMB Circular A-21, as noted on Exhibit A.

- **Included in Modified Total Direct Costs –** some common items include:
  - Travel – Includes private car mileage, per diem, public transit fare, etc. Itemize and describe both in-state and out-of-state travel to the extent you can at the time of the proposal. Whether or not out-of-state travel is shown on the project budget, specific case-by-case approval must be requested through RTI in advance of the travel, unless the Project Agreement specifies otherwise.
  - Other – Includes costs such as reference materials and books, registration fees, and maintenance and repair of equipment, freight, and postage.

Explaining Large Purchases Can Enhance Your Proposal

Goods & Supplies – If your budget includes a large amount for goods and supplies, a brief statement about what you plan to buy, and how it will be used, may help reviewers better understand what you plan to do on the project.

Operating Expenses, Subcontracts, & Equipment – While these costs are typically itemized, your comments can be too short to convey how the items will be used, and their importance to the project.

Even on the budget form, you have some simple opportunities to better explain your proposal. For instance:
- Include a few words about what a **subcontractor** will do, not just the name.
- Briefly say what a piece of **equipment** will be used for, not just the make and model number.
- If you plan to develop or build a **test or demonstration site**, make it clear on the budget what costs are associated with that.

- **Excluded from Modified Total Direct Costs –** some common items include:
  - Tuition – paid in lieu of either partial or total salary. (Allowable for grad students only.)
  - "Other" costs, which per OMB Circular A-21 can not be included in Modified Total Direct Costs.

If You Propose to Subcontract More than $10,000 …
You run the risk of your proposal not being considered, if a competitor submits a good proposal with that work done by a Texas state-supported university(s).

- **Subcontracts –** Any contract or procurement of engineering or other professional services arranged between the university and an entity not a part of that university is considered a subcontract. This definition is intended to cover the types of work that university researchers might typically do, not all service purchases. For instance, copier or automotive repair, printing or similar services that administratively support research work, and specialized testing would not typically fall under this definition.

- **Equipment –** Include each item of equipment or other tangible items to be purchased under the project for which the item or system cost is $5,000 or more. A system is defined as two or more items purchased which will be combined to form a single, functional unit.

  Also include information, as needed, to help explain how the specific equipment item relates to the project. For instance, if the individual item is a component of a larger system, state what system it will be a part of. If the item is a product, or part of a product, shown on the Deliverables Table, state what deliverable it represents.

- **Total Direct Costs –** The total of all cost categories listed above. If you have used the RTI (Excel) form, this total will be calculated for you.

Indirect Costs

Indirect costs include facility and administrative costs of the university that are not specifically identifiable with a particular project. These costs are calculated as a percentage of modified total direct costs, as defined on the Itemized Budget – Exhibit A form.

Exhibit A should show indirect costs calculated with the university's federally approved indirect cost rate, and with the amount charged to the TxDOT project. The maximum percentage that can be charged to TxDOT on a university project is set in the CRIA. The difference between these two numbers is shown as the university's contribution to the project.

Total Project Cost

This total is derived from total direct costs plus total indirect costs charged to the project. If you have used the RTI (Excel) form this total will be calculated automatically, based on individual costs entered on the form. Review the total to make sure your data was entered in the correct cells on the form, and that the total is calculated correctly.

If there is a discrepancy between line item amounts and "total project cost" on an Exhibit A, the amount shown as "total project cost" will be used during evaluation of the proposal. Any discrepancy will be resolved before a Project Agreement is executed. You could be required to reduce line items amounts so "total project cost" does not exceed the annual funding approved.

Section 5: Exhibit B

Overview

The **Project Description – Exhibit B** is comprised of several sections. All pages in Exhibit B should display a footer with the project number and consecutive page numbers. The required sections, and one optional section, should be presented in this order.

- Project Abstract
- Implementation (optional section)
- Work Plan (if omitted, proposal will be considered non-responsive)
- Identification of Information Technology (IT) Deliverables to TxDOT
- Assistance or Involvement by TxDOT
- Deliverables Table (if omitted, proposal will be considered non-responsive)
- Schedule of Research Activities (if omitted, proposal will be considered non-responsive)

Exhibit B is Where the Rubber Meets the Road

Taken together, sections in Exhibit B:

- present the essence of the project,
- describe the work to be performed,
- establish the deliverables due to TxDOT, and
- establish the schedule for completion of project work.

When preparing Exhibit B:

- respond directly, completely, and concisely to the Project Statement distributed in the RFP,
- clearly communicate how you plan to conduct the project,
- include substance, not fluff, and
- follow the instructions in this section.

Project Abstract

Each proposal should contain a project abstract that summarizes the project objectives and tasks. The abstract should be no more than 200 words and is prepared free form (no RTI form needed). This section of the selected proposal will become part of the Project Agreement, so be direct in your statements. Use phrases like – “this project will”, rather than “we propose to” or “the proposed project will”.

The primary value of the abstract is to clearly and succinctly describe the project. Your ability to succinctly summarize the work you propose to do helps demonstrate your understanding of the project. This is not the place to describe work tasks in detail – save the details for the Work Plan.

For successful proposals, the abstract is used to enter a project description into several databases.

- TxDOT's Research Management System
- Transportation Research Board’s (TRB) Research in Progress system

Implementation

At the university’s option, include a free form section by this title that presents the researcher's assessment of potential areas for application of the research findings, such as changes in specifications, standards, or department policies. If included, this section should also include an assessment of which TxDOT operations will be affected.

When deciding whether or not to include an implementation section, consider the project you are proposing, and what the project results will look like. If you think including your thoughts about implementation will better explain the project or your knowledge of the area, include them.

For projects expected to produce results which could be implemented either during the progress of the project or shortly after completion, material in this section might include an assessment of several issues.

- The form in which the findings would be most effectively reported
  - mathematical model or formula
  - laboratory test procedure
  - design techniques
- The organization logically responsible for application of the results
  - American Association of State Highway and Transportation Officials (AASHTO)
  - Federal Highway Administration (FHWA)
  - Texas Department of Transportation (TxDOT) Division or District
- The specific medium of practice that would be changed or developed by the findings
  - AASHTO Standard Specifications
  - TxDOT Standard Specifications
  - special specifications
- The best method to convey the research findings to operating personnel for use
  - circulation of a written report
  - personal contact with operating personnel
  - demonstrations
  - movie, slide, or videotape presentation
  - field manuals
  - training classes

Work Plan

The Work Plan is a free form section that should fully describe the approach researchers intend to use and specify how the project will be structured and performed. Proposals submitted without Work Plans will be considered non-responsive and will not be accepted for technical evaluation.

For joint projects or projects with subcontractors, the Work Plan should specify which entity(s) will be performing the work on each task.

A Work Plan should be comprised of one or more uniquely numbered specific tasks. It should be developed in enough detail to guide the Research Supervisor and other researchers during the course of the project, and to clearly convey to TxDOT what work researchers are proposing to do. The Work Plan is a valuable management tool for everyone connected with the project.

The Work Plan Drives the Project

Your Work Plan should be complete and able to stand alone – understanding your Work Plan should not require reading any other section of your proposal.

- Include enough detail to effectively guide project work, and explain how you plan to manage the project, including the use of project meetings and Tech Memos.
- Include enough detail for reviewers to be able to understand the work tasks.
- Don’t include unnecessary details that may hamper the accomplishment of project objectives in a changing environment.
- Remember that any individual named in the Work Plan can only be changed with a Mod (the RS) or RTI’s approval.

Should your proposal be chosen, you will have committed to accomplish the Work Plan and TxDOT will expect you to accomplish all of that work.

Ideally, each task in the Work Plan is separate and distinct. A well written Work Plan will also describe dependencies and relationships between the tasks, including the project’s critical path.

The Work Plan for a research project should contain at least the following information.

- How the project and each task will be managed
- Principles or theories to be used
- Possible solutions to the problem
- The device, process, material, or system to be developed or enhanced, when applicable
- Critical experiments to test the applicability of the theory or the item developed
- Data analysis and statistical procedures

Don't detail proprietary techniques, methods, or formulae in your Work Plan.

Proprietary techniques owned by the university can, and should be, discussed in a way that demonstrates the researchers knowledge and skill without revealing any proprietary information owned by the university.

The Work Plan should not include additional information about the background and significance of the project, or researchers' qualifications. That information belongs in other sections of your proposal. Your ability to describe a clear, complete and concise Work Plan helps demonstrate your management skills and knowledge of the project.

Identification of Information Technology (IT) Deliverables to TxDOT

All IT deliverables (software and hardware) supported by project funds must be described in this section. This includes all IT items which will be delivered to TxDOT during the project, or after it terminates. This information is required to help TxDOT plan for how to most effectively implement IT deliverables, and to meet state reporting and budget requirements.

IT Deliverables for TxDOT use…

"must meet TxDOT architecture requirements at the time of delivery."

For a specific project, the statement above may be appropriate in your proposal, or required in the agreement.

If you ignore this issue during development, the deliverable may be considered unacceptable.

List all IT deliverables on the Deliverables Table, and include the information below in this section.

- An itemized list of IT deliverables proposed for ultimate transfer to TxDOT.
- The anticipated use, and users, of the IT deliverables within TxDOT, or elsewhere.
- The anticipated impact of the IT deliverables to TxDOT IT infrastructure, other IT systems, and TxDOT IT support personnel.
- The task number(s) under which development will occur.
- A summary of the development to be performed, including what IT tools (applications, languages, developer toolkits) will be used. Be specific and realistic. If it's an Excel application, no matter how advanced – say that. Don't just say a "data analysis" application.
- The estimated cost of IT deliverables proposed for transfer to TxDOT, including hardware and software purchased by the university, and development time, by fiscal year.
- A description of any proprietary IT deliverables. If the use of such deliverables will require a license, the university shall request from TxDOT, in writing, specific approval to include the proprietary deliverables in the project. Failure to obtain approval for the use of proprietary IT deliverables may result in TxDOT rejecting the deliverables as not meeting TxDOT's needs.

If no IT deliverables will be generated by this project, state "none" in this section.

Assistance or Involvement by TxDOT

In this section describe any TxDOT assistance the university(s) expects, other than project oversight normally provided by the Project Monitoring Committee (PMC). If no assistance, other than that normally provided by the PMC, is needed, state "none" in this section.

Be specific enough so that TxDOT can realistically estimate the cost of assistance requested. The cost of this assistance must be found to be affordable and feasible for the project to be approved.

TxDOT assistance may include items such as core drilling, traffic control, testing, materials and supplies, minor IT services, providing data files, or maps. The cost of this assistance is covered by TxDOT directly and is not included in the university's budget.

TxDOT assistance does not include purchasing equipment or large quantities of materials. Such purchases should be included in the university's project budget. Reasonable TxDOT assistance also would not include building or operating a test facility or a commitment of significant TxDOT staff time for data analysis or direct participation in work tasks.

If the university(s) expects to need and operate TxDOT equipment on the project, the following language must be included in this section before a Project Agreement can be executed:

> "If it becomes necessary under this agreement for any agent or employee of the Performing Agency to operate a vehicle owned by TxDOT, the Performing Agency shall assume all risks of operation, including the risks of damage to the vehicle, damage to any other vehicle, and injury to any person. To the extent permitted by law, the Performing Agency shall indemnify and hold harmless TxDOT for any liability that may accrue from the Performing Agency's operation of the vehicle. The Performing Agency shall maintain worker's compensation insurance and any other insurance necessary to meet its obligations under this provision."

Deliverables Table

All deliverables anticipated or required from the project should be shown on your Deliverables Table. Minimum deliverables required by TxDOT are listed on the Project Statement or IPR. Proposals submitted without a Deliverables Table will be considered non-responsive and will not be accepted for technical evaluation.

Each Deliverables Table should be prepared on RTI's current form. The RTI forms sent to University Liaisons include an example of a completed Deliverables Table.

Include time in your Work Plan and Schedule of Research Activities for development of deliverables.

TxDOT policy (chapter 6, section 2 of the *Research Manual*) allows up to 60 days for professional editing, not development, of reports after the technical project ends.

TxDOT may ask for an unedited draft of any report when, or before, the technical project terminates, even when that draft is not specified on the Deliverables Table.

Really think about whether a product should be stand-alone or included within a report.

When considering whether a product should be delivered as a stand-alone item or included in a report, consult the guidance in the Project Statement and on the Deliverables Table form. The choice should be based on what the product is, how it will be used, and the intended users in TxDOT. A well thought out plan for deliverables will include each product only once and clearly describe on the Deliverables Table how each product is most appropriately and reasonably delivered.

Schedule of Research Activities

The Schedule of Research Activities provides an overview of the project, and serves as a project management tool for both TxDOT and researchers. It shows all tasks proposed, along with an estimated schedule for completion of each task, and the estimated % of the total project budget that each task represents. This schedule is the last required document in Exhibit B. Proposals submitted without a Schedule of Research Activities will be considered non-responsive and will not be accepted for technical evaluation.

The schedule should be prepared on RTI's Schedule of Research Activities form, or in some other automated document that shows at least the information included on RTI's form. The RTI forms sent to University Liaisons include an example of a completed Schedule of Research Activities. When you prepare a Schedule of Research Activities, keep the issues below in mind.

To Make the Schedule an Even Better Tool …

Even if you do not define each **project meeting**, **deliverable**, or **Tech Memo** as a task, you may still note on the Schedule of Activities when you expect these things to happen. Just make the notations understandable.

The Schedule of Research Activities can then serve as an overview of all project activities.

Schedule for Each Task – Make sure it is realistic, understandable, and within the proposed project time frame. An assumed start date is shown in the proposal. The work however will start only after the project is activated by RTI.

Task Titles – If you choose to, you may summarize task titles, as long as each task is still easily and readily identifiable.

% of Total Budget – On joint projects, TxDOT prefers that you combine all university budgets and show a single % calculation for each task. If that proves too difficult, you may show a separate column for each university, adding to 100%.

Should the project start be significantly delayed past the date anticipated in the proposal, a new schedule will be requested by TxDOT before the Project Agreement is executed, so that everyone involved in the project clearly understands what is expected, and by when.

If You Use Your Own Form …

You Have to Make it Work!

If you choose not to use RTI's form to prepare your Schedule of Research Activities, make certain that whatever format you use to show time lines is legible, and can be readily reproduced on a black and white copier. Avoid colors or shades of gray that show little distinction when copied, or do not show up at all when copied.

The RTI (Excel) form uses patterns, instead of colors, to distinguish between the original schedule, work completed, and revised schedule for each task. Using this could save a university the embarrassment of submitting what appears to be a blank schedule with a signed Project Agreement, and the delay time then spent getting another agreement signed.

The RTI form also provides a separate line where each time line (original, work completed, revised) may be maintained for each task throughout the life of the Project Agreement.

Section 6: Background and Significance of Work

Contents

This section should include several topics.

- The findings of a literature search or other description of existing technology on the subject. A search should be made of the Transportation Research Information Service's (TRIS) or other relevant databases to ensure that previous work is considered in the new project. If you believe a list of references would enhance your proposal, it may be included here.
- Discussion sufficient to demonstrate the researcher's understanding of the underlying principles involved in the problem that TxDOT needs solved, and in the work proposed.
- A brief discussion of the researcher's approach to the problem.

This section is included in the Proposal only — not in the Project Agreement.

It should contain no statements obligating either the university or TxDOT to specific actions.

Length and Format

This section is limited to no more than 10 pages, and is prepared free form. Page number this section separately, beginning with "1 of X". Start and end this section on pages separate from all other sections of the proposal.

► Information in excess of 10 pages will not be accepted. ◄

Background and Significance of Work

What It Is – What It is NOT

It is – The place to demonstrate that you understand the subject of the proposed project, and to **briefly** describe your overall approach to the project.

It is – The place to **summarize** the results of any literature search you performed to prepare your proposal, as you believe they are relevant to the proposed project.

It is NOT – The place to describe details of the proposed work. Put that information in the Work Plan.

It is NOT – A place to detail the background and experience of the proposed research team. Put that information in the Research Staff and Facilities section of your proposal.

It is NOT – The place to list every document you looked at while preparing your proposal. Use the **(up to) 10 pages** for information that is more meaningful during proposal review.

Section 7: Research Staff and Facilities

Contents

This section explains the experience of the proposed research team, and the capacity and capability of your facilities. Proposals submitted without a Research Staff and Facilities section will be considered non-responsive and will not be accepted for technical evaluation.

Provide information that is relevant to the specific proposed project. You are the person best able to relate your past experience to the project. Unless your entire career has dealt with the subject of the specific project, don't miss this opportunity to explain how your experience is really relevant.

Don't just send a resume, or a list of every report you've written!

If you can't relate your skills and past experience to the project – reviewers have little chance of being able to do so.

Don't forget that evaluators must make their judgments based on information in your proposal – not on something else they may happen to know about you.

Format

This section should be prepared on RTI's Research Staff and Facilities form, or in a document showing equivalent information.

Relevance to Project Agreement

This information is used only during the evaluation of proposals. It is not included in the Project Agreement.

Chapter 5
Project Agreements

Section 1: Approval

Proposal Selection

All proposals received by the deadline, and only those proposals received by the deadline, are first evaluated in an administrative review. During this review, RTI contracting staff determine:

- whether all researchers on the proposed teams are eligible to participate in the program,
- whether each proposal is complete enough to be deemed responsive, and
- whether each proposal meets any specific constraint or limitation specified in the RFP for that project.

RTI sends proposals that pass the administrative review to Project Monitoring Committee (PMC) members for technical evaluation. Each committee member receives all the proposals for a project at the same time, along with evaluation instructions and criteria. Each proposal is rated against the needs described in the Project Statement, based on the criteria shown below.

Proposed Tasks	**Weight**
Grasp: Rate the proposal on its understanding of the issue	3
Focus: Rate the tasks on how suitable they are for the project objectives	3
Clarity: Rate the tasks on clarity and level of detail	3
Innovation: Rate the research approach on its innovativeness	1
Products: Rate the work plan on how it addresses the required product(s)	2
Success: Rate the proposal on likelihood of achieving implementable results	2
Research Team	
Qualifications: Rate the team on their qualifications for the proposed work	2
Effort: Rate the level of effort allocated by the primary researchers	1
Proposed Schedule	
Duration: Rate whether the time allocated per task is reasonable	1
Plan: Rate the organization and sequencing of the work plan	1
Proposed Budget	
Estimate: Rate whether the budget is reasonable	1

The Project Director (PD) and each Project Advisor independently rate each proposal. The PD, considering all of the ratings and input, then makes the final decision on which, if any, proposal to select. That recommendation is then reviewed by the Research Management Committee overseeing that project.

Research Management Committee (RMC) Review

In the spring, each RMC reviews a summary of PMC member ratings and the PD's selection, for each project in the annual RFP. If the selection appears reasonable, based on the technical review, the RMC approves each PD's proposal selection. If a selection does not appear reasonable, the RMC may evaluate additional justification and approve the selection, may select another proposal, or may not approve any proposal on that project.

Funding Approval

The Research Oversight Committee (ROC) approves funding for new research projects for the coming year, based on the proposal selections approved by the RMCs, and a financial summary prepared by RTI. If adequate funding is available to cover the budgets in all the proposals approved by the RMCs, development of new Project Agreements continues, based on RMC approvals. If funding is not available to cover all the approved proposals, the ROC prioritizes projects and selects those to move forward to contract.

Revisions to the Project Agreement

Even though a proposal may be approved by the RMC, it may not contain everything needed to become a Project Agreement. Or it may include material that does not belong in a Project Agreement. After funding is approved by the ROC, an RTI Contract Specialist will send instructions to the lead University Liaison to either execute the agreement, as proposed, or to submit a revised Project Agreement.

Revisions requested are based on both the administrative and technical reviews within TxDOT. They may be simple administrative issues that can be handled by a University Liaison, or may require technical changes that are best handled by the Research Supervisor. Whatever the scope of the changes, each revised agreement should:

- carry a new date on the Cover Page,
- clearly mark **all** revised language (unmarked revisions may be held to be invalid later), and
- be coordinated through the University Liaison and the RTI Contract Specialist.

How revised language is most clearly marked depends on the extent of the revisions.

- **Minor-to-moderate revisions** — Revised pages display the date revised preceded by the word "Revised." Additions made in the current revision are typically highlighted by underlining. Deletions are typically highlighted by strikethrough. In each revision, only the current changes are highlighted. Previously approved revisions are incorporated into the document.
- **Substantial revisions** — If the agreement is substantially revised, a statement to that effect at the beginning of the document under a heading "Significant Revisions" may be substituted for what otherwise would be a large amount of highlighting. This method requires review of the entire revised agreement and is rarely necessary.

After all revisions have been approved by TxDOT, RTI will request a signed copy of the agreement from the lead University Liaison. Before execution by the university(s), all highlighted revisions should be incorporated, or "accepted" into the agreement.

Things To Remember About Revisions

Every Project Agreement must be complete – Even if your proposal was accepted for evaluation, and selected, if you left something out at the proposal stage, it will have to be added now.

Contract language must be current – If you used old forms, you may be asked to redo them now, especially the Cover Page.

Clearly mark revisions – But don't get so creative that revised language is not easy to find, or is easily confused with formatting used in other ways.
- Strikethrough ~~deletions~~
- Underline <u>additions</u>
- Relying on different colors alone is not a good idea!

Put a new date on each version of the agreement – Make it easy for everyone to readily tell which version is current.

Section 2: Activation

Initial Activation

Once a Project Agreement has been executed by TxDOT, the liaison for each university on the agreement will receive an activation letter from RTI. This letter specifies the date the agreement was activated, which is also the date that work may begin on that project. Any work done, or purchases made, before the activation date will not be reimbursed by TxDOT.

Even though the term of the agreement may cover several fiscal years, the initial activation covers only the fiscal year specified in the letter, or on attachments to the letter.

On some occasions, the initial project activation covers only portions of the project. In those cases, the activation letter will state which work tasks are not yet approved, and researchers should not begin work on those tasks. RTI will issue a subsequent activation letter when that work is approved to start. Work on unapproved tasks will not be reimbursed by TxDOT.

Annual Activation

For projects that extend beyond the initial fiscal year, RTI will issue a separate activation letter for each year that project work is approved. If there are no issues pending resolution on a project, the project will be included on an annual activation letter issued in August, for the fiscal year that starts the following month. This allows projects for which work has been approved for the coming year to continue without interruption.

Approval for a specific fiscal year does not guarantee that future years of the project will be funded and approved. No work should be done on a project in a fiscal year for which RTI has not issued an activation letter.

Activation Lists

Activation lists show the termination date and budget amount activated for each project on the list, as this information exists in RTI's project database. This information is worth your review, and worth a question to RTI if what you see does not look right to you.

With each annual activation letter, the total amount shown on the activation list for each program (research or implementation) shows you the amount that Article 9 of the CRIA refers to as "Total Program Funding" for that annual program. This amount changes throughout the year as new projects or modifications are activated.

Documents Included with Activation Letters

New project

- Fully executed Project Agreement
- Activation list

Project being modified

- Fully executed Modification
- Activation list

Project continuing into another year, without modification

- Activation list

Activation lists show the amount RTI has on record for the annual budget and the termination date for each project. If you spot a problem with the data, call the RTI Contract Specialist for that project.

RTI generally sends the documents listed above via email to ensure timely and dependable delivery to universities.

Section 3: Modifications

Determining if a Modification (Mod) is Required

The terms of a Project Agreement can be changed only by executing a Modification. Existing terms in an agreement may be clarified, and some estimates may be updated, without modifying the agreement. Common examples of both scenarios are shown below.

Article 8 of the CRIA Sets Out Rules for Modifications

- Can only be executed while an agreement is active.
- Must be in writing.
- Must be executed by all parties to the agreement.
- Must be executed before work authorized by the Mod is performed.

When a Modification is Required – Examples

- Change the total project budget.
- Change an agency's annual budget or indirect cost rate.
- Change the Research Supervisor.
- Change the termination date.
- Change the Work Plan, including changes in technical objectives, project scope, or tasks.
- Add or remove any item from the Deliverables Table.
- Change the due date for any item on the Deliverables Table.

When a Modification is Not Required – Examples

- Change a researcher who is not the Research Supervisor. (Usually handled through email, requires PD concurrence, coordinated through RTI.)
- Update the status or clarify an entry on the Deliverables Table. (Liaison should submit an updated Deliverables Table to RTI. RTI will evaluate the need for PD concurrence.)
- Update the Schedule of Research Activities without adding or deleting tasks or changing the duration of the project. (Liaison should submit an updated schedule to RTI. RTI will evaluate the need for PD concurrence.)
- Update an Itemized Budget to move funding between line items. (Do be aware of specific approvals required, as stated elsewhere in this handbook, to add equipment, subcontracts, or out-of-state travel to the budget.)

If you think an agreement may need to be modified, speak up – sooner, rather than later!

Don't forget to include RTI in the discussions.

Communicating the Need for a Modification

As soon as your university thinks that a Project Agreement may need to be modified, notify TxDOT. There is no specific mechanism through which RTI and the Project Director must be notified. Initial discussions commonly happen through email or at a project meeting.

Information a university provides about a potential Modification should include as much information as practical about which terms in the agreement will be impacted, and an explanation of why the changes are needed. Enough information must be provided to enable TxDOT to make an effective and realistic initial evaluation of the request.

The explanation of why the agreement needs to be modified should answer some fundamental questions that TxDOT will be considering.

- Why can project work not be completed within the terms of the current agreement?
- How do the proposed changes relate to any previous Modifications on the project?
- Is the information provided consistent with previous status information submitted for the project – in a Semi-Annual Progress Report, a Tech Memo, or in project meetings?
- How will the changes proposed preserve, or enhance, the value of the project to TxDOT?
- What will happen if the Modification is not approved?

While a researcher may certainly discuss a potential Modification with the Project Director, a discussion with just the PD, that never gets to RTI, is not sufficient, for two main reasons.

- Project Directors do not have the authority to modify the terms of a Project Agreement.
- If the need for a Modification is shared with RTI too late, available funding may have already been committed to other projects.

A Mod to change the RS:

- deserves some special attention
- requires planning and action by the university and TxDOT to make the transition successful!

At the first sign that an RS may be leaving – notify the PD & RTI.

Changing the Research Supervisor

When a Research Supervisor (RS) leaves a project, finding a replacement acceptable to TxDOT is critical to the project being able to continue. This is also a time that calls for a thorough assessment of project progress to date, and documentation of that work, to make certain that the knowledge of the departing RS is not lost from the project.

As soon as possible, the RS or University Liaison should notify the Project Director (PD) and RTI that the RS is planning to leave the project, along with an estimated date of departure.

The lead university should then develop a plan to continue the project.

- Review existing documentation of the work already completed on the project.
- Review the status of Tech Memos and deliverables already due on the project, obtain any overdue work from the RS, and submit that information to RTI.
- Determine whether the university can nominate a suitable new RS to complete the project.
- Submit the university’s assessment of project status to the PD and RTI.
- Submit a plan for continuing the project to RTI, including at least:
    - a description of when and how the university intends to deliver any project documentation, including reports and products, that are currently overdue,
    - the name and professional background of the proposed new RS, and
    - that researcher’s existing or past relationship with the project.

The Project Director and RTI will also initiate several tasks.

- Review the status of project work, and identify all outstanding issues.
- Review the status of Tech Memos and deliverables due on the project.
- Review the qualifications and past performance of the researcher nominated as the new RS.
- Make a decision on whether to accept the proposed new RS, or negotiate another solution.
- Decide whether the agreement should be modified to accept a new RS or terminated.

Submitting a Modification Form

If initial discussions about modifying an agreement are positive, RTI will ask the University Liaison to submit a formal written Modification. This document, prepared on RTI's Modification form, provides the details about what terms in the agreement need to change, and how.

A university should submit a Modification form only in response to a request from RTI. Unsolicited forms are not accepted. The Contract Specialist on the project will send such a request to the lead University Liaison after the Modification has been conceptually approved within TxDOT, and funding has been tentatively identified.

Once the completed (but not signed) form is received in RTI, the final review process within TxDOT can take place. If the changes proposed to the agreement are approved, and funding is secured, an RTI Contract Specialist will ask the university to sign the Modification and send the partially executed agreement to RTI, for final execution.

> **The Basics of Submitting Mods**
>
> **A Modification form should only be submitted if requested by RTI.**
>
> **A completed Mod form must be submitted before the final review** process can take place within TxDOT.
>
> **Timeliness is of the essence**, especially late in the fiscal year or if the project is scheduled to terminate soon.
>
> **While a Mod is pending execution, work should be continuing under the existing agreement,** not under the proposed Mod.

The last date in each fiscal year that RTI typically will request a signed Modification is August 1, with the signed Modification due back to RTI by August 15. These deadlines are simply to allow adequate time for final processing before the end of the fiscal year. Meeting the deadlines is critical, especially on any agreement set to terminate at the end of August, since terminated agreements can not be modified.

> **Numbers and Document Dates are Important!**
>
> **They must each be unique**, among all other documents related to that agreement.
>
> **Modifications must be executed in sequence**, starting with Mod #1.
>
> **Modifications that are never executed don't count.** That # is reused, since the proposed changes never really happened.
>
> **Document dates should reflect reality.** Use the date you actually finalize the document, not the date you started, or the date you expect the Mod to be signed.

Preparing a Modification Form

The Modification form is the signature page for the entire Modification. Language on the signature page must either specify the new contract terms, or incorporate by reference, all documents attached to the signature page. Most items on the form parallel items on the Cover Page of a Project Agreement, and are self-explanatory. The following discusses those items which are unique to Modifications.

Numbering Modifications (Mods)

Number Mods in sequence, starting with "1". The sequence continues through the life of the agreement.

Document Dates

Each Mod, and each version of a Mod if applicable, should be uniquely dated. Each document should carry the date it was developed, or last edited. The date distinguishes that document from other versions of that particular Modification, and from any other agreement document for that project.

Attachments to the Modification signature page do not need to be separately dated. As part of the Modification, they carry the same date entered on the signature page.

The "revision date" fields on the Itemized Budget and Schedule of Research Activities are used when these documents are updated to provide more current information or clarification, not as part of a Modification. They should be left blank when submitted as part of a Modification.

Language on a Modification Form

The forms that RTI distributes to University Liaisons includes a file with example language for common scenarios that arise when agreements need to be modified. Basic language, ready for you to copy and fill in your specifics, is included for the scenarios listed below, along with reminders of other parts of the agreement that may be affected.

- **Changing the Budget**
  - Increasing Annual and Total Budget
  - Moving budget from one university to another, no change in Total Budget
  - Reducing budget in one year, increasing in another year, no change in Total Budget
- **Changing Project Duration**
- **Changing the Research Supervisor**
- **Changing the Deliverables Table**
- **Adding, Deleting, or Revising Tasks**
  - Making minor revisions to a task(s) – new Work Plan **not** attached
  - Making major revisions to a task(s) – new Work Plan **not** attached
  - Adding a task – new Work Plan **not** attached
  - Deleting a task – new Work Plan **not** attached
  - Revising tasks – new Work Plan **is** attached
  - Adding tasks – new Work Plan **is** attached

> **If You're Wondering What to Say on a MOD …**
>
> **Have a look at RTI's example language.** You may not need to reinvent the wheel every time.
>
> Example language is sent to University Liaisons, along with other RTI forms, as updates are made. Look for - **ModEx.doc**

Marking Changes in Attachments

When you attach documents to the Modification to show what specific terms of the agreement are being changed, you must clearly mark all the language being changed. This is important on any document where the summary on the signature page of the Modification can not easily convey the specific changes. It is critically important on Work Plans.

Each Modification should highlight only the changes being made in that Mod. Changes approved in previous Modifications should be incorporated, or "accepted", into the agreement before you develop the current Modification. You may mark the current changes in simple ways. Common techniques are to underline <u>additions</u>, strikethrough ~~deletions~~.

As with all agreements, use information in the footer, such as the project and modification numbers, and page numbers, to clearly identify what attachments are part of the Modification.

Work Plan Rewritten

Occasionally, changes needed to a Work Plan may be so extensive that a complete rewrite is needed. In those situations, language on the Modification signature page should state something like "Entire Work Plan is revised. New Work Plan is as attached."

Changes in the Work Plan are not highlighted in this situation. Rather, the following notice should be included at the beginning of the Work Plan:

> **Significant Modification – This is a significant modification of the Work Plan. Changes are not highlighted and some previous material may have been removed. This Work Plan should be reviewed in its entirety.**

Project Agreement Rewritten

In rare cases, the entire Project Agreement may need to be rewritten. Should that happen, a new Project Agreement form, rather than a Modification form is used. Review the requirements for Project Agreements in general, and pay particular attention to these items.

Cover Page — The heading on the cover page should state: "Modification No. ___ of" before the line reading "Project Agreement." This modification should be numbered in sequence, with all other modifications to the agreement for this project.

Notice of Rewrite — No highlighting of additions and deletions is necessary. Instead, a notice similar to that shown above for a rewritten Work Plan should be included at the beginning of the Cover Page.

Section 4: Subcontracts

What is a Subcontract

TxDOT's *Research Manual* defines subcontracts, as they relate to research and implementation Project Agreements. It also lists articles in the CRIA that may relate to subcontracts.

In general, subcontracts include engineering or professional services provided by someone who is not part of the university. Subcontracts in this context do not include routine service purchases, or services not typically provided by a university.

The definition of a subcontract is dependant on the type of service to be provided, not on the university's method of procurement.

Article 6 of the CRIA Sets Out The Basic Requirements

You must have prior written concurrence from RTI for:

- any subcontract with a Texas state-supported university,
- subcontracts over $10,000 with other entities.

If You Plan to Subcontract More Than $10,000 …

In a competitive proposal – You run the risk of your proposal not being considered, if a competitor submits a good proposal with that work done by a Texas state-supported university(s).

At any point in the project – Be prepared to explain why that work could not be done by a Texas state-supported university.

Purpose of RTI Review

RTI reviews the proposed use of a subcontractor to ensure there is a real need for someone other than a Texas state-supported university to do that work, not to determine the adequacy of the contract provisions. We rely on the university to see that subcontracts meet the requirements in the CRIA and the university's own contracting standards.

There are occasions when the private sector or an out-of-state university may be needed to provide a service that is critical to a project, but is not readily available in the Texas university community. Specialized testing services are an example. Before you plan to subcontract, make a realistic assessment of whether the work can be done by another Texas state-supported university, if not by another department in your university.

Evidence of RTI Concurrence

RTI's concurrence in a subcontract may be evidenced in either of two ways.

- Execution of a Project Agreement that adequately discloses the subcontract
- By a written statement from RTI identifying the subcontract and explicitly concurring in it

Adequate disclosure of a subcontract in a Project Agreement includes showing an estimated budget for the subcontract on each Itemized Budget affected and clearly describing in the Work Plan what work the subcontractor is expected to perform. If a specific subcontractor has been selected, the name of the subcontractor should be shown on the budget(s).

If a Project Agreement mentions a subcontract, but does not clearly describe the work the subcontractor is to do, execution of the agreement by RTI does **not** serve as evidence of RTI concurrence. The university will need to request specific concurrence for that subcontract.

A written statement of concurrence from RTI will include at least the project number, the name of the subcontractor, and a brief description of the work the subcontractor is expected to perform. RTI's concurrence covers only the work identified. This most typically happens when the need for a subcontract was not known, or not disclosed, in the Project Agreement. In such cases, submit subcontracts to RTI for review at least ten (10) working days before execution.

Chapter 6
Managing the Project

Section 1: The Project Agreement

Importance of the Project Agreement

Project work should be based directly on a fully executed (signed) Project Agreement that has been activated by RTI. See chapter 5 of this handbook for a discussion of initial and annual project activation.

Even though your university may have signed a Project Agreement and sent it to RTI, work can not start until RTI has notified your university that the agreement has been executed and the project has been activated for the fiscal year in which the work will be done.

Verbal discussions that may have taken place in a pre-proposal meeting, or in negotiations after your proposal was selected, do not obligate either the university(s) or TxDOT, unless the results of those discussions were incorporated into the written Project Agreement before it was signed.

Make Sure You Read the Executed Project Agreement!

Project work should be based on what is in the final written Project Agreement – not on verbal discussions, **with anyone**.

Do not start work on the project until RTI has signed the agreement and notified your university that the project has been activated.

The Project Agreement will help you manage the project, and help you and TxDOT have the same expectations.

Important management tools in the agreement include:

- **Itemized Budget**
- **Work Plan**
- **Deliverables Table**
- **Schedule of Research Activities**

Remember that the Project Agreement can only be modified by a written Modification signed by the RTI Director. The PD can not delete obligations in the agreement, nor can RTI staff.

Updating the Itemized Budget

During a project, your university may move funding between individual cost items, or add cost items, as long as the total cost for that fiscal year does not change. This does not require modifying the agreement, nor TxDOT's approval, unless you are adding any of the cost items listed below.

- **Equipment –** Adding equipment not already itemized on the budget requires written approval from RTI prior to the purchase, as discussed in chapter 8, section 2 of this handbook.
- **Subcontract –** Adding a subcontract of any amount with a Texas state-supported university, or a subcontract over $10,000 with any other entity, requires concurrence from RTI, as discussed in chapter 5, section 4 of this handbook.
- **Out-of-state Travel** – All out-of-state travel requires specific approval from RTI, as discussed in section 2 of this chapter.

If you think an updated budget would help make your plans clear to TxDOT **– send it!**

It's your option, which can help keep everyone on the same page. Don't forget the "revision date".

At your university's option, you may submit an updated Itemized Budget to document the results of RTI's approval of additional equipment, subcontracts, or out-of-state travel, or simply to show how you have reallocated other cost items in your Itemized Budget. When you submit an updated budget to RTI, enter the date the new budget went into effect as the "Revision Date" on the Itemized Budget, to avoid confusion.

Updating the Schedule of Research Activities

As a project is on-going, it may sometimes be beneficial to update the Schedule of Research Activities, to recognize unforeseen circumstances, or other issues. This is typically done only when the proposed schedule has become so unrealistic that it no longer serves as an effective project management tool, but the Project Agreement does not otherwise need to be modified.

An updated schedule, noted by a "revision date", may be submitted without modifying the Project Agreement, as long as new tasks are not added and the project duration does not change.

While TxDOT does not have to approve your revised estimates, TxDOT will review the new schedule to determine whether it appears the project is still viable and can be completed under the existing agreement.

You may submit a revised Schedule – if the existing schedule has become so unrealistic that it no longer is an effective management tool, and the agreement does not otherwise need to be modified. It may help the project go more smoothly.

When you do:

- Make no change to the ***Original Schedule*** on the form
- Show the new time lines under ***Revised Schedule***
- Under ***Work Completed*** show the time period during which work has been performed on each task.

Submitting Updated Information

If you send an updated Itemized Budget or Schedule of Research Activities to the RTI Contract Specialist assigned to your project, that Contract Specialist will make sure the Project Director, Research Engineer and others who need the information receive it. If you send updated information directly to the Project Director, don't forget to also send it to RTI.

When You Think the Project Agreement Needs to be Modified

Chapter 5, section 3 of this handbook discusses Modifications. It covers the process from determining whether a Mod is needed all the way to submitting a completed Modification form.

Section 2: Research Supervisor Responsibilities

Project Work

The Research Supervisor (RS) on each project has primary responsibility to TxDOT for the conduct and completion of all project work, no matter who is scheduled to do each specific work task. The RS supervises and oversees the entire research team, including all researchers on joint projects, to ensure project work is consistent with the Work Plan in the Project Agreement.

> **The Buck Stops at the RS**
>
> **As the RS, you are accountable to TxDOT for all project work and deliverables**, including on joint projects.
>
> **If** you think the project is not progressing as it should, and **you can't solve the problem**, **get the Project Director and RTI involved** as soon as you can.
>
> **And take credit when it's due**, by reporting outstanding successes to the PD and RTI as soon as practical.

Deliverables

As the RS, you are responsible for seeing that all required deliverables meet TxDOT's standards and are delivered in a timely manner, no matter who is assigned to prepare each deliverable. You may seek assistance from other university personnel, including professional editors, to help you meet TxDOT's standards for quality and timeliness of deliverables.

Roadside Safety

By signing the CRIA, your university agreed to follow the rules in TxDOT's *Handbook of Safe Practices*, including wearing hard hats, safety vest and shoes, or other appropriate safety attire, when working on TxDOT right of way. Being safe is also simply the smart thing to do.

Coordinate all traffic control needs and plans with the TxDOT district where you need to do work, well ahead of time. You will also typically need to submit a request for TxDOT assistance to RTI. The process is discussed later in this section.

> **Get to know your University Liaison –** to get information on RFPs and other program issues. If you don't know who your liaison is, send a message to rtimain@txdot.gov.
>
> **Don't forget to include RTI –** Communications between you and the Project Director do not take the place of communications or documents that universities are required to submit to RTI – including deliverables.

Communications With TxDOT

RTI coordinates all program matters through University Liaisons. You can expect to receive information from your liaison about program requirements, RFPs, proposal selections, revisions needed to agreements before they are executed, deliverables overdue, and various other program issues.

As the RS, you will most often communicate directly with the Project Director, generally on technical issues related to a specific ongoing project. You may also hear from the RTI Contract Specialist and Research Engineer assigned to your project. Communications with RTI will also be related to your specific project, but may involve a wide range of issues.

Status Reports and Tech Memos

As the RS, you are responsible for providing project status reports and findings, for all project work, as requested or required by the Project Director or RTI. There are different types of status reports to fill different needs. They all help TxDOT monitor project work, and help you manage and demonstrate progress on your project.

Informal – Some status reports are informal monthly emails or phone conversations, just to make sure the Project Director knows what is going on, and how work is progressing. Send these when you think they will be helpful, or as requested by the Project Director.

Project Meetings – Several meetings are typically scheduled by TxDOT on each project. As the RS, you may also request a project meeting, just by letting the Project Director and RTI know you want to meet to discuss the project.

Monthly or Quarterly Progress Reports – Such reports may be required for certain projects. The Project Director typically determines the need for such reports, and the format desired.

Semi-Annual Progress Reports – These are status reports required for each project by research program policy, for projects active during each reporting period. The current RTI form for these reports anticipates that after the initial report is submitted, the file will be maintained by the RS and simply updated on the required schedule. RTI sends a reminder to each University Liaison approximately one month before each report is due.

> **Semi-Annual Progress Reports (SARs) are Living Documents**
>
> As you update your SAR in February and August each year, show activity for the previous 6 months.
>
> The last SAR for the project will show a snapshot of the entire project.

Technical Memorandums – Tech Memos describe what work was completed during a task, and document the results of that work. They are discussed further in the next section of this chapter.

Request for TxDOT Assistance

When you need support from a TxDOT district for work on an RTI project, you need to:

- coordinate with the district(s) to define and schedule the needed work,
- complete an RTI "Request for Research Fund Authorization (RFA)" form, and
- send the completed form to your University Liaison, at least 2 weeks before work is to start.

Your University Liaison will coordinate with the appropriate RTI staff, and let you know when your request is approved. If approved, RTI will provide a charge number to the district(s).

Request for Out-of-State Travel

> **If you don't get approval from RTI before out-of-state travel, don't expect RTI to pay for it.**

Before you travel out of the state, or out of the country, you need TxDOT's approval, if you expect to charge the travel to an RTI project. This requirement is contained in Article 11 of your university's CRIA with TxDOT. The CRIA provision also includes a requirement for you to make your best effort to submit travel requests to RTI at least 10 days before the travel.

Unless the executed Project Agreement specifically states otherwise, you must submit RTI's "Request for University Out-of-State Travel" form, with estimates for each travel expense category on the form, to obtain TxDOT approval, and it must be done before the travel. As with all RTI forms, you may get the form from your University Liaison.

Submitting Questionnaires and Surveys for TxDOT Review

A preliminary copy of all questionnaires and surveys you expect to use on a research project must be submitted to RTI, before being used in the field. RTI will coordinate a review by the Project Director, and other appropriate TxDOT personnel. As the RS, you are responsible for seeing that the survey is submitted to RTI.

TxDOT reviews surveys to make sure they present the issues in an objective manner and do not offer inappropriate incentives to participants. No cash prizes should be offered to participants, and TxDOT does not generally support paying participants to complete short surveys.

If, due to the time or out of pocket costs involved, you expect to pay participants to complete questionnaires or surveys, this should be stated in the approved Work Plan, and the cost should be included in your budget for the project. This is not an appropriate item to ask TxDOT to fund in addition to your university budget.

Submitting Papers (and Presentations) for TxDOT Review

Before you publish or submit a paper – make sure you're aware of TxDOT's review requirements.

Before you, or any researcher on your project, publishes or submits a paper or presentation to a professional journal or conference, about a TxDOT sponsored project, make sure you have received any approval that may be required from TxDOT. In this context, publishing includes posting material on a non-secure Internet site.

If the paper or presentation contains subject matter or technical findings substantially similar to those in a deliverable that TxDOT has already approved, you don't need another TxDOT review. Send a courtesy copy to RTI, to help keep everyone aware of what is going on with the project.

If the paper or presentation contains significant technical findings that have not been approved by TxDOT, you must obtain TxDOT's approval before presenting it. Submit your material to the professional organization, such as TRB, and RTI at the same time. This usually allows enough time for review and approval by TxDOT prior to presentation or publication.

When the preparation schedule does not allow adequate time for TxDOT review and approval, send an abstract of your material to RTI, along with a notice of when and where you intend to present the material. RTI will coordinate TxDOT's review and approval of the abstract. Your paper or presentation must then include a statement that TxDOT has not reviewed your findings. Submit a copy of the complete material to RTI as soon as possible. If there is time before the material is scheduled to be presented, TxDOT will review your material, and you may be able to remove the disclaimer.

Section 3: Technical Memorandums

When Tech Memos Are Required

Most Project Agreements include provisions requiring the RS to submit a Technical Memorandum (Tech Memo) to both the PD and RTI at the end of each task that is not otherwise structured to produce a project deliverable.

Tech Memos serve to both document project work as it progresses, and to provide current research results to TxDOT. Timely preparation and submission of Tech Memos is important as the project progresses to help keep researchers and TxDOT in sync with each other. Good Tech Memos will also benefit the project at the end, by facilitating the preparation of project reports.

What a Good Tech Memo Can Do – For You, the Project, & TxDOT

- Document accomplishments and results of work on a task while information is fresh and available.
- Provide readily available information for development of project reports.
- Help ensure that work is not lost or delayed if a member of your research team leaves.
- Deliver project results to TxDOT as soon as they are available.
- Help ensure the project continues productively if you, the RS, leaves.

Contents

Tech Memos should include detailed information about the work completed under the task(s) being reported on, and the results of that work. For example, if the focus of a task in the Work Plan is to conduct certain types of tests on certain materials, the Tech Memo submitted for that task would typically discuss several issues.

- How the tests were structured.
- Criteria established for evaluation of test results.
- What types of materials were tested.
- How many tests were conducted, and on how many samples of each material.
- Test results – presented in a way that is meaningful, effective and relevant to the objectives of that work task.

Semi-Annual vs. Tech Memo

Semi-Annual (SAR) – a status report.

Tech Memo – description of the work completed and results found.

For example:
- A project started on September 1.
- Task 1, literature review, was completed in Oct.
- Submit a Tech Memo in October that lists the sources you looked at, describes what relevant information you found in each, and any conclusions you drew from the information.
- A SAR will be due March 1, about 4 months later. All the SAR needs to say for Task 1 is that the literature review is complete and what date you submitted the Tech Memo to RTI.

Data collected during work on a task should generally be delivered to TxDOT with, or in, the Tech Memo. It should be delivered in whatever manner it is most effectively communicated. Raw data to be analyzed or used by TxDOT is best delivered electronically, as raw data. In other cases, or in addition to the raw data, a chart or graph presenting an analytical view of the data may be most appropriate.

Each Tech Memo should also present any conclusions, or preliminary findings, that researchers have drawn from the work completed. This helps make research results useful and relevant while the project is still ongoing. It can also serve to highlight any differences in how researchers and the PMC understand the project's objectives and methodology. Identifying any such differences early in the project can make the difference between failure and success for a project.

The contents appropriate for each Tech Memo are dependent on the work done in that task. No procedure can specify what is most appropriate in each case. As the RS, use your judgment to determine what you think should be included, or discuss your thoughts with the PD before you prepare a Tech Memo.

There is no 1 right format for a Tech Memo.

The contents and format most appropriate for a Tech Memo should be determined by the RS, based on:

- the work done,
- the objectives of the task and
- how that Tech Memo can facilitate later project work.

Minimum Requirements

Each Tech Memo must be understandable. RTI does not require that Tech Memos be professionally edited before they are submitted. Nor does RTI prohibit editing of Tech Memos by any university personnel.

Each Tech Memo should be in a format that effectively communicates the information. RTI does not prescribe or require that Tech Memos be in any specific format, and the same format may not be appropriate for all Tech Memos. If a task(s) is defined in such a way that the work will most likely represent a distinct chapter in a technical report, the Tech Memo can be submitted in a format similar to a technical report. RTI does not require that, but it should be considered as a way to facilitate preparation of the report later. As the RS, think about how the information in each Tech Memo will contribute to the later development of project deliverables, and select a format that you think will effectively contribute to that process.

Each Tech Memo should be submitted to TxDOT in a timely manner. A Tech Memo should generally be submitted as soon as work on the task(s) is completed. If a task is scheduled to be conducted over a period of many months, the Research Supervisor, or the Project Director, may decide that a Tech Memo prepared at an interim milestone in that task would benefit the project. Nothing in RTI policy prohibits that.

How to Submit

Tech Memos should be sent electronically to the PD and the RTI Research Engineer and Contract Specialist assigned to the project. Tech Memos are typically submitted to TxDOT by the RS, but that is not a strict requirement. RTI does not prohibit other university personnel from submitting Tech Memos, as long as the RS is aware of what is submitted.

Chapter 7
Deliverables Standards

Section 1: Submission, Review, and Publication

Deliverables Required on Each Project

The Deliverables Table in each Project Agreement specifies what deliverables are due to TxDOT on that project. It also specifies whether each product is to be developed as a stand-alone item, or incorporated into a report, and any specific format required. The requirement for a deliverable, and its due date can only be changed by modifying the Project Agreement.

Initial Submission of Reports

All reports submitted to satisfy an obligation on the Deliverables Table should be sent directly to RTI, after review and editing at the university. They should demonstrate good quality professional work. At a minimum, each report should be edited for spelling, punctuation, and grammar before submission. Reports are termed “draft” by RTI until approved by TxDOT.

If the research team and Project Director collaborate during the development of a report, a copy of the interim draft may be provided to RTI, for information. RTI will not evaluate the report against the standards in this chapter, nor consider the deliverable obligation met, until the university, following their own internal process, formally submits the deliverable to RTI.

Draft reports may be submitted either electronically, or in hard copy. RTI will make an initial evaluation of whether each draft appears to be complete, log the report as received, and then coordinate the review and approval process within TxDOT. The contractual requirement for a deliverable is not met until a complete submission, in substantial compliance with RTI’s submission requirements, is received in RTI.

Electronic Submission of Reports Saves Time and Money

RTI encourages electronic submission of draft reports, after they have been reviewed and edited.

- Technical reports in PDF format (don’t forget to minimize file size)
- PSRs in MS Word format

Smaller files (less than 15 mgs, including message & all attachments) – email to rtimain@txdot.gov

Larger files – TxDOT’s FTP service at: https://ftp.dot.state.tx.us/dropbox

All electronic submissions should be addressed to rtimain@txdot.gov.

Draft products may also be submitted electronically, when practical.

Revised deliverables may be submitted electronically – unless the Contract Specialist working that deliverables instructs otherwise.

Initial Submission of Products

Submit all draft product deliverables to RTI, unless the Deliverables Table specifies otherwise. RTI will coordinate the review and approval process within TxDOT. Draft products may be submitted electronically, when practical, the same way reports are submitted.

When equipment is specified for delivery to a location other than RTI, notify RTI of the delivery, and include the following information.

- Which product the equipment represents
- When and where the equipment was delivered
- Who at TxDOT accepted delivery
- A picture of the deliverable, including front and side views, when possible

RTI will then contact the employee who accepted delivery, and coordinate the review process. When products are not tangible items to be delivered physically, such as when a university conducts a workshop, notify RTI of the product delivery and include with the notice any related tangible materials available.

Deliverables are Contractual Obligations that Should Not be Taken Lightly

TxDOT projects are not grants. They are contracts to conduct work and deliver results, with real deadlines.

Research Supervisors who are "seriously" late in meeting their contracted responsibilities **are ineligible for additional TxDOT research work.**

RTI establishes the list of ineligible researchers each year before proposals are due in response to the annual RFP.

Accurate Data on the Status of Deliverables is Critical

To help keep TxDOT & university deliverables status data in sync, **RTI provides a quarterly status report to each university** with deliverables overdue, per RTI's records.

Deadline for Submission

Draft deliverables, in substantial compliance with submission requirements, must be received in RTI by the due date on the Deliverables Table to not be considered overdue. For those products where the Deliverables Table specifies another location for delivery, the formal notice to RTI meets this submission requirement.

Due dates for deliverables will not be modified after the contract terminates, and will be modified after a contracted due date has passed only in rare circumstances. Extension of project termination dates will not be considered for the sole purpose of extending due dates for deliverables.

Requests for modification of due dates received before the contracted due date will be evaluated case-by-case, and processed only if circumstances beyond the university's control affected the university's ability to meet the due date.

Due dates for deliverables in later stages of production are set by RTI, and provided to the university with each deliverable processing request.

Number of Hard Copies to Submit

Unless stated otherwise on the Deliverables Table, when you choose to submit hard copy, send enough copies for each member of the PMC, plus 2 copies for RTI. If you need a list of PMC members, send your request via email to rtimain@txdot.gov. Please specify whether you need a list for a specific project, or for all projects with your university.

TxDOT Review Process

The Project Director (PD) is responsible for final acceptance or approval of each deliverable. During the review process, the PD considers comments from Project Advisors and the RTI Research Engineer. Information technology deliverables also require approval from the Technology Services Division.

The PD sends review comments with which they agree, and any special distribution or other instructions, to RTI for coordination with the university. After the TxDOT review is complete, an RTI Contract Specialist will formally notify you of what needs to happen next on that deliverable, along with a deadline for that action. Any informal discussion you may have, with the PD or Research Engineer for instance, will not change the due date against which you will be held accountable.

An RTI Contract Specialist Coordinates the TxDOT Review

Even though various divisions within TxDOT may need to review a deliverable, **you need only get the deliverable to RTI.**

You should expect to receive only 1 set of instructions from TxDOT, for each step in the deliverables process. Those instructions will be in writing, from an RTI Contract Specialist, and will establish the due date for the next action on that deliverable.

Should you have a question about the status of the review of a deliverable, contact the RTI Contract Specialist assigned to the project, or send your question to rtimain@txdot.gov.

Final Approval

Formal approval of a deliverable is provided to the university in writing, by RTI, typically from an RTI Contract Specialist. Verbal approvals, or approvals from other TxDOT offices or the FHWA, do not constitute TxDOT approval and permission to publish.

RTI will provide publication and distribution instructions along with the formal approval. The instructions may vary widely, depending on the type of deliverable, the anticipated audience for the information, and the cost of hard copy publication. Some examples of options include:

- widespread hard copy publishing and distribution, plus posting on the Internet,
- hard copy publishing in black & white, plus full-color posting on the Internet,
- limited hard copy distribution, additional distribution on DVD, plus posting on the Internet,
- posting on the Internet, with no hard copy publishing of the approved deliverable, or
- no publication of the deliverable at TxDOT expense.

Publication and Distribution Restrictions

Approved deliverables that TxDOT elects not to publish — The university may publish at its own expense.

Disapproved deliverables — If TxDOT does not require the university to revise and resubmit the report, the university may publish at its own expense, as long as any disclaimers provided by RTI for that deliverable appear in the front of the deliverable.

Deliverables containing classified or sensitive information — The university shall comply with any written request from TxDOT to restrict access and distribution of any deliverable containing information that TxDOT determines to be classified or sensitive. Any disagreement on the part of the university should be submitted to RTI in writing.

Publication and Reproduction Costs

If your university does not have the resources to publish an approved deliverable in accordance with RTI's instructions, contact RTI to discuss potential options. TxDOT may opt to publish the deliverable, using TxDOT or other resources.

Copies Retained by the University

A university may publish, for its use, up to five hard copies of any approved report or product, at TxDOT's expense. Hard copy needs beyond these limits should be discussed with RTI in advance of publication, and will be evaluated on a case by case basis.

Section 2: Technical Report Standards

General

TxDOT strongly encourages authors to engage professional editors and proofreaders – to review reports for compliance with standards and for general readability, before they are submitted to TxDOT for approval.

Skipping this step may result in your report being rejected as not complete.

Technical reports should be developed, published, and reproduced to reflect the best professional standards of the university or research agency. They should be written and edited per current professional standards of style and usage, such as The Chicago Manual of Style or the Federal Highway Administration (FHWA) publication guidelines.

Cover Page

A formal cover page is required on each published report. It is produced on heavy stock and designed by the university responsible for the report. Information shown on the cover page should include as a minimum the information listed below. Additional information may be included at each university's option.

- Name of the university, prominently displayed
- Title of the report, prominently displayed
- TxDOT report number, prominently displayed
- TxDOT project number
- URL where the report will be posted on the Internet

A good abstract on this form will help readers find your report, and decide to read it.

Technical Report Documentation Page

A DOT F 1700.7 form should be included in each technical report. This form is typically used as the cover page on a draft report submitted to TxDOT for review. The form is included as the first page of the front matter in reports published in hard copy, and may serve as the cover page for a report published on-line.

The form is distributed to University Liaisons along with RTI forms, or may be obtained by searching the US Department of Transportation's web site. Instructions for completing form DOT F 1700.7 are included in the next section of this chapter.

Title Page

This page typically follows directly behind the Technical Report Documentation Page, and should include the following information:

- title of the deliverable,
- researchers and their research agency(s),
- deliverable number, including the entire project number and deliverable item number,
- project number,
- project title,
- sponsoring agency(s),
- date, and
- performing agency.

Credits for Sponsor

The following statement should be included either on the report cover or on the title page of each report:

> "Performed in cooperation with the Texas Department of Transportation and the Federal Highway Administration."

If the FHWA credit should be omitted, or other sponsors included in the credits, RTI will notify the university of the changes needed to the standard language.

Disclaimer(s)

Disclaimers, as appropriate, are presented on a separate page, following the title page.

Author's Disclaimer — This disclaimer is required in all technical reports, and states:

> "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 view or policies of the Federal Highway Administration (FHWA) or the Texas Department of Transportation (TxDOT). This report does not constitute a standard, specification, or regulation."

Engineering Disclaimer — This disclaimer is required on all technical reports that contain engineering recommendations. It states:

> "This report is not intended for construction, bidding, or permit purposes."

This disclaimer should be accompanied by a statement identifying the engineer in charge of the project, including name, P.E. designation, and license number.

All technical reports produced for TxDOT under this program should comply with the requirements of the State of Texas and TxDOT related to signing, sealing, and dating of engineering documents, as applicable to work produced under the specific project.

Trade Names / Manufacturers' Notice — Reports should avoid the appearance of endorsing or favoring a specific commercial product, commodity, or service. Trade names or manufacturers' names are given only if their exclusion results in the loss of meaningful information. When trade names or manufacturers' names are used in a report, the following "notice" should be included on the disclaimer page:

> "The United States Government and the State of Texas do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report."

TxDOT Disclaimer — If TxDOT disapproves or conditionally approves the report, the university must include any disclaimer deemed appropriate by RTI.

Acknowledgments

Members of the Project Monitoring Committee should be acknowledged in each report, along with their organizations. For TxDOT employees, the acknowledgment may include the "Texas

Department of Transportation" rather than individual district, division, or office affiliations. Acknowledgments are presented on a separate page following the disclaimers.

Table of Contents

Each report should contain a table of contents, following the acknowledgments page. This table should include all principal headings and subheads as they appear in the report, along with their page numbers. Lists of figures, tables, and abbreviations may follow, as needed.

List of Figures

A list of figures (includes figures, illustrations, and photographs) is required for reports containing five or more figures, and may be included at the author's option in any report. This list should contain:

- the number of each figure,
- the title or caption for each figure, and
- the page number of each figure.

List of Tables

A list of tables is required for reports containing five or more tables, and may be included at the author's option in any report. This list should contain:

- the number of each table,
- the title for each table, and
- the page number of each table.

List of Abbreviations and Symbols

If a report contains numerous or unusual abbreviations or symbols, the author should include a list that clearly defines each abbreviation and symbol.

Body of the Report

The body of the report should be understandable by the intended audience, and should include all the information needed to adequately support the conclusions and recommendations presented. Contents should be logically organized into discrete chapters. Recommendations should be clearly identified.

References should be included for specific sources cited in the report. They should contain author(s), title, publication number, publisher, and publication date. References are typically listed in a separate chapter or appendix. Material used to help conduct the project or develop the report, which is not specifically cited in the report, may be listed in a bibliography following the references.

Product deliverables contained within a report should be clearly identified as such. Depending on the quantity of information that represents a product deliverable, this might be most appropriately done in a separate chapter, an appendix, or on a specific table.

Size Conventions

Technical reports should be formatted for 8 ½ by 11 inch pages. Contents should be presented in portrait orientation, with a margin of at least 1 inch on all sides. Large charts, or multiple charts presented together, which would not be easily readable otherwise, may be presented in a landscape orientation, or produced on oversize pages. All reports should be in a single-column format, to facilitate on-line reading. Individual reports may be divided into volumes if deemed necessary by the author.

Line Spacing

For body text and other non-graphical elements, either single or one-and-one-half line spacing is acceptable. Reports with double line spacing will not be accepted.

Pagination

Reports should be printed on both sides of the paper, except when standard bookmaking practice dictates that a left-hand page be left blank so that the start of a section (chapter, appendix, etc.) falls on a right-hand page.

Front Matter — Number pages consecutively with lower case Roman numerals, such as ii, iii, etc. The Technical Report Documentation Page is always page i, but does not display the page number. The title page also is left unnumbered.

Body of the Report — Number pages consecutively, starting with Arabic numeral 1 and continuing uninterrupted through any back matter (appendices, list of references, etc.,) in the report. Page numbering each chapter or section separately using a dual system, such as “1-1”, is also acceptable.

Figures / Illustrations / Photographs

General — Information in each report should be illustrated clearly and in a cost-effective manner. The most appropriate illustrations will depend on the type of work done and the amount of data gathered. Project Directors may request that figures or illustrations be added to more effectively convey the content of the report.

Numbering — Figures should be numbered consecutively within chapters, using Arabic numerals in a dual system. For example, the second figure in chapter 3 would be numbered “Figure 3-2”. Numbering figures consecutively through the entire report is also acceptable.

Titles — Each figure should include a title or caption, generally beneath the figure. The title should quickly and simply describe the essence of the figure. If a legend is required to make the figure readily understandable, it should be included beneath the figure. Titles and legends should be distinguished from the body of the report by placement (for example, centered just beneath the figure) and a difference in font.

Labels — Labels within figures should appear in a consistent font throughout a report, as that is practical. A font should be chosen for readability and contrast with surrounding text.

Color — Figures will not be printed in color unless authorized by RTI, either by a specific statement, or approval of a draft submitted in color. Approved reports may be delivered electronically, such as on university web sites, in full color without specific permission from RTI, even if the draft was submitted in black and white.

When figures are developed, colors or patterns should be chosen for critical elements that can be delivered effectively in color electronically, and printed in black and white, as much as practical.

Placement — Each figure should be placed near, but not before, its first reference in the text. If a report contains few text pages and many figures, place all the figures sequentially after the text.

Tables

Numbering — Tables should be numbered consecutively within chapters. For example, the first table in chapter 4 would be numbered “Table 4-1”. The second table in appendix A would be numbered “Table A-2”. Numbering tables consecutively through the entire report is also acceptable.

Titles — Each table should include a title, at the top of the table. The title should quickly and simply describe the essence of the data presented in the table. Any legends or notes needed to make the table readily understandable should be included within, or just below the table. Titles should be distinguished from the body of the report by placement (for example, centered just above the table) and a difference in font.

Placement — A table should be placed near, but not before, its first reference in the text. If a report contains few text pages and many tables, place all the tables sequentially after the text.

Equations

General — For each independent equation, or for the first in a series of related equations, authors should identify symbols after their first use, or in a separate list, to aid the reader.

Numbering — Within each chapter, sequentially number equations that are part of a series, or which are referred to consecutively in the text, with Arabic numerals in a dual system. Enclose each number in parentheses at the right margin on the last line of the equation elements. For example, “(Eq. 1-2)”, in chapter 1, or “(Eq. A-2)”, in appendix A. Numbering equations consecutively through the entire report is also acceptable, if a list of equations is then added in the front matter of the report.

Placement — Indent or center each equation in the line immediately following the first text reference made to it.

Use of Copyrighted Material

General — No copyrighted material, except that which falls under the “fair use” clause, may be incorporated into a report without permission from the copyright owner, if the copyright owner requires such. Prior use of the material in a TxDOT or governmental publication does not necessarily constitute permission to use it in a later publication.

As applicable, copyrighted material used in a report shall be accompanied by a statement substantially as follows: “Reprinted from (title of publication) by (name of author), by permission of (name of copyright owner). Year of first publication _____.”

Courtesy — Acknowledgment or credit should be given (by footnote, bibliographic reference, or a statement in the text) for use of material contributed or assistance provided, even when a copyright notice is not applicable.

Caveat for Unpublished Work — Some material may be protected under common law or equity even though no copyright notice is displayed on the material.

Proprietary Information — To avoid restrictions on the availability of reports, proprietary information should not be included in reports, unless it is critical to the understanding of a report and prior approval is received from RTI. Reports containing such proprietary information will contain a statement on the Technical Report Documentation Page restricting availability of the report.

University’s Right to Copyright

Article 17, “Copyrights”, of the Cooperative Research and Implementation Agreement (CRIA) contains provisions relating to copyrights on materials developed under a research or implementation project.

Ownership and Release of Data

As stated generally in Article 16, “Ownership Of Data”, of each CRIA, release of information contained in a report is restricted prior to approval of the report by TxDOT, to the extent allowed by the Texas Public Information Act.

Section 3: DOT F 1700.7 Instructions

Technical Reports

Box 1, Report No. — enter as FHWA/TX-09/0-1234-1, where:

- FHWA = Federal Highway Administration,
- TX = Texas,
- 09 = year the report is approved,
- 0-1234 = entire project number, including suffix if used on contract,
- 1 = usually the Deliverables Table item number, without the preceding “R” .

Help Users Find Your Report

The DOT form is easier than it may initially appear. Just follow the instructions in this section.

To help users find your report in national databases, pay special attention to identifying info.

- Box 1 – Report Number
- Box 4 – Title
- Box 5 – Date
- Box 7 – Author(s)
- Box 16 – Abstract
- Box 17 – Key Word

Box 2, Government Accession No. — leave blank.

Box 3, Recipient’s Catalog No. — leave blank.

Box 4, Title and Subtitle — entire report title.

Box 5, Report Date — month and year report was written or last revised, whichever is later.

Box 6, Performing Organization Code — leave blank.

Box 7, Author(s) — list all authors, primary author first, including first name, middle initial if available, and last name.

Box 8, Performing Organization Report No. — report number, consisting of entire project number and report number from Deliverables Table, 0-1234-1 for example.

Box 9, Performing Organization Name and Address — name and address of the research agency(s).

Box 10, Work Unit No. — leave blank.

Box 11, Contract or Grant No. — entire TxDOT project number, as on the contract.

Box 12, Sponsoring Agency Name and Address — enter:
Texas Department of Transportation
Research and Technology Implementation Office
P.O. Box 5080
Austin, TX 78763-5080

Box 13, Type of Report and Period Covered — “Technical Report” and dates showing period of time covered by the report.

Box 14, Sponsoring Agency Code — leave blank.

Box 15, Supplementary Notes — enter "Project performed in cooperation with the Texas Department of Transportation and the Federal Highway Administration." If the title of the project is significantly different from the report title, enter the project title here.

Box 16, Abstract — Include a brief (200 – 250 words) summary of the most significant information contained in the report. When applicable, the abstract should include advice on how the results of the research can be used.

A Good Abstract Can Increase the Value of a Research Project – by Getting the Results Read

Use the abstract to quickly deliver your key findings to readers. A great abstract briefly tells the reader:

- why the research was important,
- what you examined,
- what results you found, and
- how your research results will benefit the future or change current practices.

You are encouraged to have a professional communicator write the report abstract.

Box 17, Key Word — terms or short phrases that identify the important topics in the report.

Box 18, Distribution Statement — "No restrictions. This document is available to the public through the National Technical Information Service, Springfield, Virginia 22161, www.ntis.gov."

Boxes 19 and 20, Security Classif. — unless advised otherwise in writing by RTI, enter "unclassified".

Box 21, No. of Pages — total number of pages in the report, excluding any bound covers.

Box 22, Price — leave blank.

Draft Products

Although not required with draft products, at the university's option, you may include this form to help identify the deliverable. If you include the form with a draft product, modify the contents of the form, compared to a technical report, as discussed below. This form is not generally published with stand-alone products, as such products should carry enough information to be readily identifiable without this form

Box 8 — Indicate "Product", and include the entire product number from the Deliverables Table, 0-1234-P2 for example.

Box 13 — Indicate "Product", and do not include a "period covered".

Boxes 18, 19, 20 — leave blank.

Section 4: Project Summary Report Standards

General

Project Summary Reports (PSRs) are typically required only for research projects. Their main purpose is to communicate information about research results to a broad audience, even though they typically do include some technical information. They serve as a link between conducting research and implementing the results of that research.

The ideal PSR is a clear and concise description of:
- why the research is important,
- what the research accomplished, and
- how the research results can best be put to use.

The material for the body of each PSR is prepared, edited and submitted by the lead university on the project. The PSR is then reviewed, formatted, finalized and published by TxDOT. During this process, TxDOT will make changes to the material submitted, if necessary, to meet TxDOT standards, rather than asking the university to resubmit the material. An electronic copy of each completed PSR is returned to the university to be posted or published as they desire.

Contents

The body of each PSR is limited to 800 words (if no graphics are included) and discusses the topics listed below. A Technical Report Documentation Page is not required with a PSR.

1. **Background —** a brief description of the purpose and scope of the project and why the research was important.

2. **What the Researchers Did** — a brief summary of project activities (e.g.: literature review, interviews, laboratory and field testing, surveys, monitoring of test sections, development of a draft specification), and problems encountered, if any.

3. **What They Found —** a summary of the research findings and what conclusions can de drawn from them, and whether or not the findings were as anticipated.

4. **What This Means —** suggestions from the research team for putting project findings to use.

A PSR Should Speak to a Broad Audience and Explain Why the Research Matters

What They Found – summarize the findings from your work, not the work tasks themselves.

What This Means – explain how your findings will be useful to TxDOT and other transportation professionals.

A graphic is not required in a PSR, but may be used if it will most effectively convey the information. The 800 word limit must then be reduced to make space for the graphic(s). Graphics should be clear, simple and referenced in the text of the PSR to effectively convey meaning to the reader.

The university should submit the names of all university researchers who should be credited in the PSR, along with the material for the body of the report.

Copyrights

The same standards for use of copyrighted material, and ownership of copyrights, apply to PSRs that apply to technical reports.

Ownership and Release of Data

As stated generally in Article 16, “Ownership Of Data”, of each CRIA, release of information contained in a report is restricted prior to approval of the report by TxDOT, to the extent allowed by the Texas Public Information Act.

Submission to RTI

Each Project Summary Report is submitted to RTI via email, with the required contents attached as an MS Word file. The email should be sent to rtimain@txdot.gov, with a subject line containing the project number and “PSR” .

Section 5: Product Standards

General

Products are intended for implementation within TxDOT operations. The Deliverables Table for each project specifies the form or media in which each product should be delivered, and any specific format required.

Because the range of product types is vast, and the most appropriate type is determined on a case-by-case basis, it is not practical to pre-define standards for every type of product that may be required. In general, all products should be developed and produced in final form in a manner that reflects the best professional standards of the university or research agency. Standards applicable to specific types of products commonly required by TxDOT are included below.

Equipment and Devices (other than Information Technology)

General — Equipment deliverables, as discussed here, are tangible devices developed or procured under a research or implementation project specifically for delivery to TxDOT.

Physical Delivery to TxDOT — The Deliverables Table specifies where within TxDOT the university should deliver the equipment. Physical delivery will often be to a functional division, or a district, rather than RTI.

Schematics — Working plans or schematics may or may not be required, depending on the status of any patent filing contemplated by the university.

Patents — Article 18, “Patents”, of each CRIA contains provisions relating to patentable discoveries or inventions resulting from research or implementation projects.

Guidebooks and Manuals

General — Products such as guidebooks, manuals, and similar items are developed as specified by TxDOT. They are often developed as printed documents and published in nontraditional formats. For instance, they may be printed on heavy stock or waterproof material or in a size smaller than 8.5 by 11 inches, to facilitate use in the field. They may also be published electronically as a PDF document that includes active hyperlinks to resources on the Internet.

Standards — When a product is developed as printed material, all of the technical report standards which can be reasonably applied to the document should be, except the requirement for a Technical Report Documentation Page (form 1700). If a form 1700 is needed with the final delivery of a product, RTI will so notify the university.

Final Publication within TxDOT — When a department manual is developed under a research or implementation project managed by RTI, the final outcome of that project is a draft department manual. Once the Project Director approves the product on the RTI project, RTI ensures that the Office of Primary Responsibility, generally the division responsible for that functional area, receives the material in a format that will facilitate final approval and publishing of the manual within TxDOT.

Information Technology

Information Technology (IT) product deliverables can include:

- data collections,
- computer hardware and software, and
- documentation relating to the acquisition, analysis, design, construction, implementation, maintenance, use, or support of the above.

Approval for Development — Proposed IT deliverables must be approved by the Technology Services Division (TSD), or the Information Resource Council (IRC), through the TSD Project Advisor in accordance with TxDOT IT policies and procedures, prior to full execution of the Project Agreement. The form this approval may take varies widely, depending on the type of IT deliverable that is expected on the project.

Specific requirements related to the development of an IT deliverable may be included in the Project Agreement, or finalized, in cooperation with the TSD Project Advisor, as project work progresses.

Development — IT deliverables must conform to TxDOT IT architectures and standards, as determined applicable by the TSD Project Advisor. Their development must also comply with standards for the use of copyrighted material presented in this chapter. Some IT deliverables may go through various stages of approval before the final delivery to TxDOT.

IT deliverables intended for use within TxDOT must comply with TxDOT's core technology architecture at the time of delivery, unless an exception has been approved by TSD. The specific architecture requirements may depend on whether the deliverable will be used within a single work group, or be implemented throughout TxDOT.

All IT deliverables, regardless of the intended user, must be delivered to RTI, at the draft stage, in a format and architecture that facilitates effective review of the product by TxDOT.

Delivery of Software to TxDOT — The source code and documentation for software deliverables should be submitted to RTI, along with the operational software product. RTI is responsible for final delivery of the software to the appropriate division within TxDOT.

Restriction on the Use of Data — If the university furnishes information or data that the university considers to be proprietary, the university will affix the use-restriction statement shown below to the data, mark the data with the project number and any applicable subcontract, and deliver the data directly to TxDOT. TxDOT will thereafter treat the data in accordance with the following statement:

> "These data, furnished under Texas Department of Transportation (TxDOT) project number ________, may be duplicated and used by TxDOT with the express limitations that the data may not be disclosed outside TxDOT, nor be used for purposes of manufacture, without prior permission of (name of university or research agency). These restrictions do not limit TxDOT's right to use or disclose any data obtained from another source without restriction. This statement shall be marked on any reproduction of these data in whole or in part."

Technical Support — How an IT deliverable will be supported will depend on whether the users are inside or outside of TxDOT.

- **Inside TxDOT —** Any requirement for IT support by TxDOT must be established and assigned before delivery of the software or hardware to TxDOT.

- **Outside TxDOT —** A university developing software for use outside TxDOT must establish an appropriate mechanism, outside TxDOT, for continuing support of the software.

Construction Specifications

Format — Specifications should be delivered in a format consistent with those found in the current version of TxDOT's standard specifications.

Final Approval within TxDOT — Once specifications are approved by the Project Director, they must be approved by TxDOT's Specification Committee before being distributed for use.

Other Specifications

Format — The required format for delivery of specifications, other than construction specs, will typically be stated on the Deliverables Table in the Project Agreement. If not stated in the Project Agreement, the required format should be discussed with the Project Director before the specification is first submitted to RTI.

Training Materials

Development — Development of training materials shall be coordinated with the agency that will ultimately be responsible for providing and supporting the training. Within TxDOT, this may be a specific technical division or the Human Resources Division. It may also be an outside entity like the Texas Engineering Extension Service (TEEX) or the National Highway Institute.

Format — The format in which the training material should be delivered is specified on the Deliverables Table. For a specific training module, multiple formats may be required, such as student notebooks for a workshop, hard copy and electronic instructor material, and a video presentation. Some training modules may be required to be delivered on-line.

Video Presentations

Quality — Commercial quality equipment should be used for any video footage either maintained raw to document research work or developed into a formal presentation.

Scripts — Scripts for formal presentations should be submitted to RTI for review at least 60 days prior to the start of production.

Review of Draft — A draft of the presentation should be presented to RTI and members of the PMC for review, prior to final editing.

Technical Report Documentation Page

A Technical Report Documentation Page is not generally required. Each product should carry adequate identifying information, on the product itself, to make this form unnecessary. If the university chooses to submit this form, see “Draft Products” in section 3 of this chapter.

Copyrights

The same standards for use of copyrighted material, and ownership of copyrights, apply to products that apply to technical reports, when the product is one to which these standards can be logically applied.

Ownership and Release of Data

As stated generally in Article 16, “Ownership Of Data”, of each CRIA, release of information contained in a product is restricted prior to approval of the product by TxDOT, to the extent allowed by the Texas Public Information Act.

Chapter 8
University Costs

Section 1: Allowable Costs

Eligibility Requirements

The *Research Manual*, under “Allowable University Costs”, lists several documents that set out the federal and state requirements for determining eligible costs on research and implementation projects. The manual also lists several conditions (principles) that must be met for costs to be eligible for reimbursement by TxDOT.

The focus box at right lists some key principles that you need to always keep in mind. The common factor in these principles is that a fully executed Project Agreement drives the determination of what costs are eligible on a specific project. You should rely on the written agreement, not on verbal or email instructions, even from the Project Director or an RTI staff member.

Don’t Ignore These Key Principles

- **Project Agreement must be executed** by RTI for any costs to be eligible for reimbursement by TxDOT.
- **Costs must be necessary and reasonable** on the specific project the costs are charged to.
- **Costs must be within the scope** of the executed Project Agreement.
- **Costs must be incurred during the term** of the Project Agreement.
- **Costs must be within the approved budget limits** for the project.

While there is some judgment involved in determining what costs are necessary and reasonable, there are some costs that should clearly never be charged to a project.

- Business meals not related to travel.
- Costs not actually incurred. For example, charging an amount based on an allowance or estimate, rather that actual cost.
- Salary for someone who did not work on the project for the amount of time charged.
- Purchases, such as equipment, that are not expected to be used on **that** project.

The remainder of this section discusses requirements for some specific cost items, including related provisions in each university’s Cooperative Research and Implementation Agreement (CRIA). You may find specific CRIA provisions in chapter 2 of this handbook.

Cost Control

TxDOT and universities share the responsibility of ensuring that costs charged to RTI projects meet state and federal requirements. This responsibility is covered by CRIA Article 13, “Billing and Payment” which discusses billing frequency, requirements, and limits.

Equipment

Refer to section 2 of this chapter for requirements related to purchasing and safeguarding equipment purchased under RTI projects.

Supplies

Supplies in this context means tangible personal property other than that meeting the definition of equipment. You do not need prior approval from RTI to purchase supplies under a research or implementation project. Your university generally retains title to supplies, unless RTI requests title in writing, or title is retained by TxDOT in the Project Agreement.

Supplies should be used by your university on the project for which they were acquired. After the project terminates, the supplies should be used on other TxDOT projects.

If supplies in excess of $5,000 are still on hand when a project terminates, you will need RTI's approval to retain them, without compensating TxDOT. Notify RTI in writing, describing the type of supplies still on hand, and how you plan to use them. If the supplies will not be used on another TxDOT project, RTI will advise you how to compensate TxDOT.

Facilities

Universities and research agencies maintain and operate the facilities necessary to conduct research and implementation projects. Items such as standard office equipment, including general use computers, and furniture are part of these facilities and are not generally chargeable to TxDOT projects. Refer to CRIA Article 10, "Facilities, Equipment and Procurement", for additional information. It discusses such things as equipment procurement, management, and maintenance and repair.

Indirect (Overhead) Charges

Indirect charges by universities to TxDOT research and implementation projects are covered in CRIA Article 12, "Indirect Cost Charges", which discusses indirect cost rate limits and what direct costs indirect rates may be applied to. TxDOT does not allow indirect charges on projects whose primary purpose is to reimburse university personnel for out-of-pocket travel costs to participate on TxDOT research committees.

Salary and Travel

Salary and travel costs are covered in CRIA Article 11, "Salary and Travel Charges". This article discusses general requirements for salary and travel charges, and the advance approval needed from TxDOT for out-of-state travel by university personnel.

Foreign Travel

In addition to the requirements in CRIA Article 11, university personnel are responsible for meeting all requirements of their agencies and the state for pre-approval of foreign travel.

Proposal Preparation

Costs incurred to prepare proposals in response to a Request for Proposal (RFP) issued by RTI must be covered by the university or research agency proposing. These costs may not be charged to a prospective or current TxDOT project. Refer to CRIA Article 1, "Nature of the Agreements" for additional information.

Technical Assistance Panel (TAP) Participation

Reimbursement of university travel costs to participate on TAP committees is covered through formal TAP agreements executed between TxDOT and universities.

Section 2: Equipment

General Requirements

University research facilities may not include all the equipment needed to complete a specific research or implementation project. Specialized items needed for a specific project are typically included in the project budget and procured under that project.

Both state and federal requirements govern equipment issues related to RTI projects. State requirements are implemented through the State Property Accounting (SPA) System maintained by the Texas Comptroller. Relevant federal requirements are contained in several documents.

- Title 23, Section 420.121, "What other requirements apply to the administration of FHWA planning and research funds?", of the Code of Federal Regulations.
- Title 49, Section 18.32, "Equipment", of the Code of Federal Regulations.
- Title 49, Section 19.34, "Equipment", of the Code of Federal Regulations.

> **What is Equipment?**
>
> In this context:
> - **tangible**, **nonexpendable** personal property
> - with a **useful life of more than 1 year**, and
> - a **unit cost of $5,000 or more**, including all components
> - that will be used by a university to conduct research work.

In general, federal requirements state that any equipment acquired under an RTI project should be used, managed, and disposed of according to state requirements. Universities are required to follow 49 CFR 19.34 which is consistent with 49 CFR 18.32 and with state property management requirements.

The remainder of this section summarizes the requirements covering acquisition and property management for university equipment acquired under RTI projects. Equipment provisions are covered in general in CRIA Article 10,"Facilities, Equipment and Procurement".

Approval for Procurement

Approval for an equipment purchase under an RTI project is obtained and evidenced in either of two ways:

- the item(s) is listed specifically on the approved Itemized Budget for the project, or
- your university receives written approval from RTI prior to the purchase. Although RTI will request the Project Director's concurrence with the purchase, the PD can not unilaterally approve an equipment purchase.

You should procure equipment approved for purchase under current state procurement methods and requirements. Your university may also elect to rent the equipment, using your internal procedures, if cost savings will accrue to the project.

> **Equipment Purchases Must be Necessary and Reasonable**
>
> - Equipment purchased under a project, must be for use on **that** project.
> - Purchases made near the end of a project, when there is no reasonable expectation that the equipment will be used on **that** project, will not be reimbursed by TxDOT, regardless of budget or purchase approval.

Procurement Reporting

You should report all equipment purchases on Semi-Annual Progress Reports, attaching a picture of the equipment, if possible, and evidence that the equipment has been added to the university's inventory system. This evidence could include a report or screen print from the university or state property accounting system, or other documentation showing:

- university equipment number,
- date of purchase,
- actual purchase price,
- description, including make, model number, and serial number when available, and
- current location of the equipment.

If a piece of equipment is purchased after the semi-annual report for that reporting period has been submitted, submit a supplementary report of the purchase, along with evidence of inclusion in your inventory system.

If TxDOT pays for all or part of a piece of equipment …

- TxDOT either owns or shares title to the equipment.
- Equipment must be tagged with a TxDOT-RTI inventory tag.

Title

TxDOT retains title to all equipment purchased under RTI projects, unless RTI transfers title, in writing, to a university. If TxDOT and a university share the cost of a piece of equipment, they share title. If the university incorporates a component purchased by TxDOT into a piece of equipment, such that the component can not be recovered from the equipment, TxDOT and the university share title to that equipment.

Possession and Use

You should use equipment on the project for which it was acquired until it is no longer needed on that project. TxDOT may then allow your university to retain possession of the equipment for use on other TxDOT projects. Such equipment should not be used on non-TxDOT projects, unless approved in advance by RTI. TxDOT may ask for the return of TxDOT equipment at any time after project termination, or cancellation.

Property Management

Your university must maintain effective property records for all equipment purchased under RTI projects and still in your possession. Effective inventory records typically include at least:

- a clear description of the equipment,
- serial number, model number, date of manufacture, or other available manufacturer's identification information,
- state or university property identification number,
- source of the equipment, including the RTI project number,
- who holds title,
- date purchased (or date received if furnished by TxDOT or the Federal government),

Universities are responsible for maintaining inventory records, in compliance with state requirements, and safeguarding all equipment in their possession.

- cost of the equipment,
- location of the equipment,
- condition of the equipment and last inventory date, and
- disposal data, including date and price.

Universities are responsible for properly tagging, maintaining, and securing equipment. You are also responsible for conducting annual equipment inventories, and reporting equipment in your possession under the State Property Accounting System. Loss, damage to, or theft of equipment should be investigated by your university, fully documented, and reported to RTI.

RTI is responsible for tracking equipment purchased under research and implementation projects as long as TxDOT holds title to the equipment, or until a university disposes of the equipment, whichever comes first. RTI maintains inventory records for such equipment, performs physical inventories every two years, and monitors each university’s inventory process. During physical inventory, RTI will tag equipment in your possession as belonging to TxDOT, if the equipment was not previously tagged.

Disposal

When your university no longer needs TxDOT equipment that is in your possession, advise RTI of such in writing, stating the condition of the equipment and an estimated fair market value. RTI will evaluate the condition and potential uses for the equipment, and instruct your university about disposal actions.

Equipment purchased under an RTI project should not be transferred to another agency, or disposed of, without contacting RTI.

Section 3: Billings

Submitting Bills

Bills should be sent directly to RTI, generally monthly, with summary billings supported by individual project invoices. CRIA Article 13,“Billing and Payment”, includes provisions covering billing frequency, the application of OMB Circular A-21, and a minimum billing limit.

Send a final invoice, prominently marked “**FINAL**”, for each fiscal year a project is active. Final invoices are due 4 months after the end of the fiscal year or 120 days after project termination, whichever comes first.

As with interim invoices, all charges must be for costs incurred during the term of the agreement and within the fiscal year billed. The fiscal year in which a cost is incurred is determined by state purchasing and fiscal management standards. See §5.56 of Title 34, Part 1, Chapter 5 of the Texas Administrative Code for more information on determining what fiscal year a purchase may be charged to.

If you can not meet the December 31 deadline for all remaining final invoices for a fiscal year, you must send RTI the information needed for TxDOT to be able to encumber additional funds for that fiscal year. This information is due by November 30, and must include:

- the projects to be billed late,
- the estimated amount remaining to be billed, and
- an explanation of why the charges can not be billed by December 31.

For equipment which was not received by the end of the fiscal year to be billed, also send a copy of the purchase order awarded during that fiscal year.

Quick Tips on Submitting Bills

- Send bills monthly, directly to RTI.
- Do not send an invoice or credit for less than $25, except final invoices.
- Remember that project budgets have annual limits and funds do not carry over from one fiscal year to the next.
- Send a **final** invoice for each fiscal year a project is active.
- If you can not bill all remaining costs for a fiscal year by 12/31 (4 months after the FY ends) – you must let RTI know that, so additional funds can be encumbered by TxDOT.
- Do not expect TxDOT to encumber funds for more than 12 months after a fiscal year ends.
- Make sure you’re charging to the right fiscal year. In general:
  Services – to the FY in which the service was performed.
  Consumable Supplies – to the FY in which the supplies were received.
  Equipment – to the FY in which the purchase order was awarded.

If RTI does not receive a notice of remaining charges on a project by December 31, RTI will consider the last invoice received by December 31 as the final invoice for that project year, even if it is not so marked. If invoices are not submitted as required above, TxDOT may not be able to pay them.

Billing Format

RTI does not dictate a specific format for university billings or invoices. Submit two copies of each summary billing, invoice, and all supporting documentation, in whatever manner is best supported by your university’s accounting system, being mindful of the information requirements stated below.

You may submit project invoices separately, or in a batch, with a summary showing the total amount billed in that batch. Each batch may include invoices for multiple projects assigned to an Annual Program. For instance, a single batch may include all the projects in your Annual Program of Research or Annual Program of Implementation.

> Include in each batch summary a list of projects being billed in numerical order, by **TxDOT project number.**

Independent projects (those not assigned to an Annual Program) should be invoiced separately.

Basic billing requirements are that each invoice be legible, contain all required supporting documentation, and include at least the information listed below on the cover page or on a summary immediately following the cover page.

- TxDOT project number(s) being billed, including prefix (e.g.: 0-9999) and task number, if assigned (e.g.: 0-9999-01).
- University invoice number.
- Fiscal year being billed.
- Billing period (e.g.: July 1, 2009, through July 31, 2009). The billing period must fall within a single fiscal year, and within the active dates of the project.
- Billing type for each project, such as:
  - interim,
  - supplemental interim,
  - final, or
  - supplemental final.
- Amount due for each project being billed.
- Cumulative fiscal year-to-date amount for each project, including the current invoice.
- Total amount due on the entire billing.

Each invoice may include other information for the university's benefit, such as university reference numbers, but should not include a TxDOT charge number or TxDOT miscellaneous contract number.

Supporting Documentation

Send two copies of the supporting documentation listed below, a copy with each invoice copy, for each project invoiced.

- Documentation of all out-of-town travel (travel away from the researcher's normal work location) sufficient to clearly show:
  - who traveled,
  - date(s) of the travel,
  - destination(s),
  - purpose of the travel,
  - specific costs (per diem, mileage, etc.), and
  - RTI approval prior to the travel for out-of-state (including foreign) travel.
- Documentation of salary charges to clearly show:
  - who worked on the project that billing period,

> **Incomplete Travel Information Slows Down Payment**
>
> **Don't be vague** about the purpose of travel. If you traveled to a meeting, include who you met with.
> **Don't bill for weekend days** without a clear explanation.
> **Clearly state the purpose of the travel**, for each day billed.

  - total cost charged for each person, and
  - monthly or hourly rate of each person working on the project. (You may show salary rates by directly stating each person's rate in supporting documentation, or by showing the percentage of monthly time or number of hours being billed.)
- Itemized list of individual equipment and other tangible items purchased, including supplies, with a unit cost of $500 or more.
- Prior approval from RTI for purchase of equipment, when items are not specifically included in the Project Agreement.
- Documentation to support charges for services received from outside the university, or from another department within the university.
- Documentation to explain and justify unusual costs, such as excessive printing, significant equipment repair costs, unusual supply costs, or similar items.

Review and Payment in TxDOT

RTI reviews invoices for general compliance with requirements, and for any obviously unallowable charges. After any issues identified in this initial review are resolved, RTI processes the invoices for payment and also sends them to Project Directors (PDs) for final review.

PDs review invoices for reasonableness and to identify charges that may not relate to approved project work. Examples of charges that PDs may question include:

- unusual or inappropriate personnel charges for the period billed,
- excessive or unapproved travel charges, and
- unnecessary or unapproved equipment charges.

Invoices that pass RTI's initial review, without needing additional information, are typically paid by the Comptroller's Office 30 days after their receipt at RTI. If you have a question about the status of payment of an invoice after that time period, contact RTI at 512-416-4730 or rtimain@txdot.gov to help resolve the issue.

If TxDOT has questions about an invoice…

During the initial review in RTI – RTI will contact the university's finance staff.
During the PD's review – the PD will typically contact the Research Supervisor, or may request that RTI ask for more information. The RS may initiate an adjustment of the invoice through the university's finance staff.

If issues remain unresolved…
RTI will work with the university's finance staff, and the PD as needed, to resolve each issue.

Texas Department of Transportation
Research and Technology Implementation Office
P.O. Box 5080
Austin, Texas 78763-5080

Telephone: 512-416-4730
Fax: 512-416-4734

Texas
Department
of Transportation